

The background of the cover is a black and white photograph of a grand, classical-style building with several tall, fluted columns supporting a pediment. The words "STATE BOARD OF HEALTH" are inscribed on the front of the pediment. A large, stylized, cursive "Florida" is written across the top of the image, partially overlapping a black rectangular box that contains the title "HEALTH NOTES" in bold, white, sans-serif capital letters.

Florida **HEALTH NOTES**

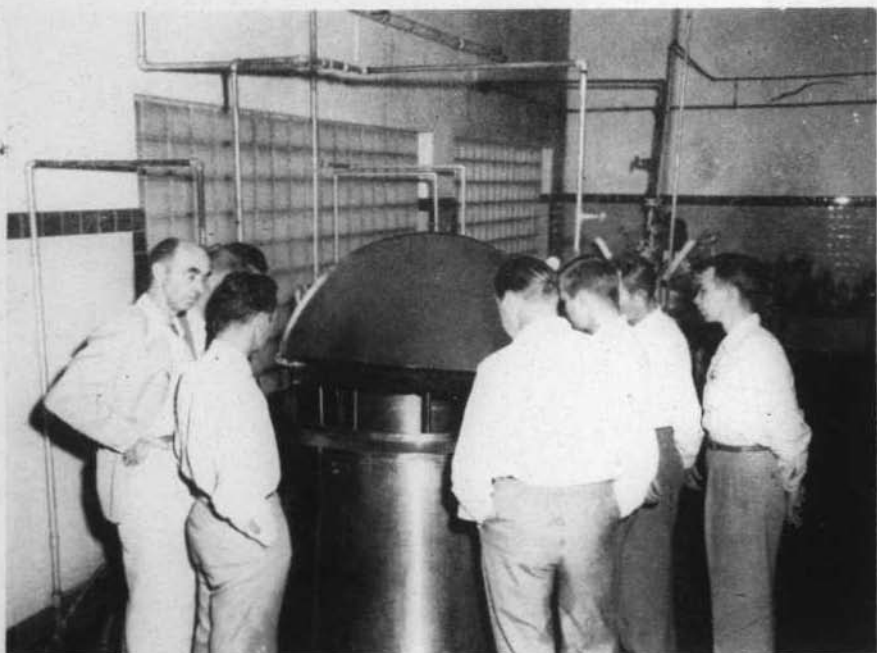
JANUARY
1951

TRAINING FOR HEALTH

Vol. 43
No. 1



A public health nurse soon learns that in order to win friends she must be a friend



Dairy inspections are important part of sanitarian's duties. Here they inspect model dairy, fail to find germs they seek

TRAINING FOR HEALTH

One of the biggest problems facing any public health agency is the task of assembling and holding sufficient trained personnel to carry on the necessary functions of such an organization. Where to find the doctors, the nurses, the sanitarians and the clerks which form the backbone of our **COUNTY HEALTH DEPARTMENTS** has been of considerable concern both to the individual departments and their professional guardian—the **FLORIDA STATE BOARD OF HEALTH**.

For public health is a specialized field that calls for specialized training. And today there are a number of Schools of Public Health throughout the United States which do prepare health officers, public health nurses, sanitarians and sanitary engineers. But the number of graduates available from these schools, plus Florida's phenomenal progress in the public health field, have created a situation where it is not always possible to find and employ specially trained personnel. So we do the next best thing: employ those who have had basic training — such as a doctor with a standard medical background as a Health Officer, and a graduate nurse as a Public Health Nurse. Where, then, can people who want to work in our County Health Departments learn the things they need to know? Many a physician, who has left private practice to enter a public health career, finds new and multiple problems. Many a nurse, formerly in institutional work, finds that such service has not prepared her for the type of generalized field work she is quite likely to meet in a county health department. Sanitarians, who are often new to a public health program, are frequently bewildered at the beginning by the multitude of things they are supposed to know and to accomplish. As for the clerks, they find that public health "bookkeeping" has a number of unusual angles not taught in the conventional business schools.

FLORIDA HEALTH NOTES

Published monthly except July and August on the 5th of the month by the Florida State Board of Health. Publication office, Jacksonville, Fla., headquarters of the State Board of Health. Entered as second class matter, Oct. 27, 1921, at post office, Jacksonville, Fla., Act of Aug. 24, 1912. It is intended primarily for individuals and institutions with an interest in the state health program, public and private. Permission is given to quote any story. Clippings of quotations or excerpts would be appreciated.

How can these unprepared people determine, except through costly trial and error, if they really want to work in the public health field, and if they have the necessary aptitudes and a genuine liking for the job?

The Florida State Board of Health has been aware of these problems for many years. In the first half of the 1940's, as Florida began to plan an expansion of public health services for its rapidly growing citizenry, the problems took on added importance. Some means of training became imperative. Establishment of a field training program became a major project. But where could money be obtained for this experiment? Where could such a project be established to operate at greatest efficiency?

Casting around for means of financing such a project, officials of the State Board of Health decided to approach the Commonwealth Fund of New York, a philanthropic organization which has shown interest in other public health projects. Meanwhile the problem of a location for what came to be known as the Field Training Center was solved after much study and careful consideration. The Alachua County Health Department at Gainesville was picked as a representative health department. That organization was considered not too big, not too little, but just about the right size to afford a well-rounded on-the-job training program for those who wanted to enter the public health field in Florida. Another factor was that a university city such as Gainesville, home of the University of Florida, was expected to help provide the right atmosphere for an educational and training project of this nature.

City and county officials, along with civic leaders, joined enthusiastically in the campaign to win support of the Commonwealth Fund for the project. So it was in the latter part of 1945 that the Commonwealth Fund granted the necessary financial support. The organization agreed to support the project fully during the first year of its existence and to continue that support on a diminishing basis for the next four years.

The Field Training Center began its task of preparing people for public health work early in 1946. Its value in helping to weed out those who, it was found, were not suited for public health work became immediately apparent. For instance, of the three doctors who enrolled that year, all three later resigned. The same was true in the other three classifications to a lesser extent. Of the 17 nurses attending the Field Training Center that year, 64 per cent have since resigned; two of the four clerks failed to complete the course, while the "mortality rate" among the sanitarians' group reached an eventual 44 per cent.



Graduates of the Field Training Center spangle Florida's map as Dr. Frank Hall shows here

That was a restless year, however, as the nation turned from war to peace, creating confusion in the minds of many people as to their future work. During subsequent years, the percentage of resignations decreased, and Florida's public health program began to thrive on the number of trained people who moved from the Field Training Center classes into local health departments to resume their old tasks or begin new work.

By the end of the Training Center's fourth year of operations, December 31, 1949, the score stood as follows: of 24 doctors, 12 had resigned; of 55 nurses, 22 had called it quits; among the 126 sanitarians, 32 had dropped by the wayside. Of the 31 clerks who had taken the course, seven were lost over the years. This in-service training facility had demonstrated one of its prime assets — to continue to train new employees to replace normal losses. Many of these trainees realized at the end of the training period that they had doubts concerning a career in public health, but went out anyhow and spent some time in the field. Some were "converted" to public health; others lost interest and a number resigned after a few months of field work.

Results obtained at the Field Training Center have been generally satisfying to the State Board of Health. How have the various county health departments reacted to it? For they are the ones who receive the workers, not the State Board of Health. The response here also has been good. An example which shows favorable reception of the training program was demonstrated by the Commissioners of Lake County. This body, which provides part of the funds to operate the health department in that county, instructed the health officer by resolution that all employees of that particular county health department must attend the course offered by the Training Center before they became permanent employees of that health department.

While Field Training Center instructors have been busy guiding their students through necessary lessons in public health operations, they have been busy learning something about these students. Let's look at the narrative report of the Field Training Center for the six-month period ending December 31, 1949. Says the report:

"In the field of health-officer training, the greatest difficulty is the background of the person to be trained. The most difficult individual, as far as medical officers are concerned, is the physician who has completed his internship and residency and has never practiced nor had any other work except his training.

"It is traditional for a physician, when he comes out of basic medical training, to feel that no one has a legitimate right to question his opinion or change his way of thinking. In other words, basic medical training, in most instances, leads one to believe that an order, when given, is a command, and not subject to veto by anyone except perhaps the chief of staff.

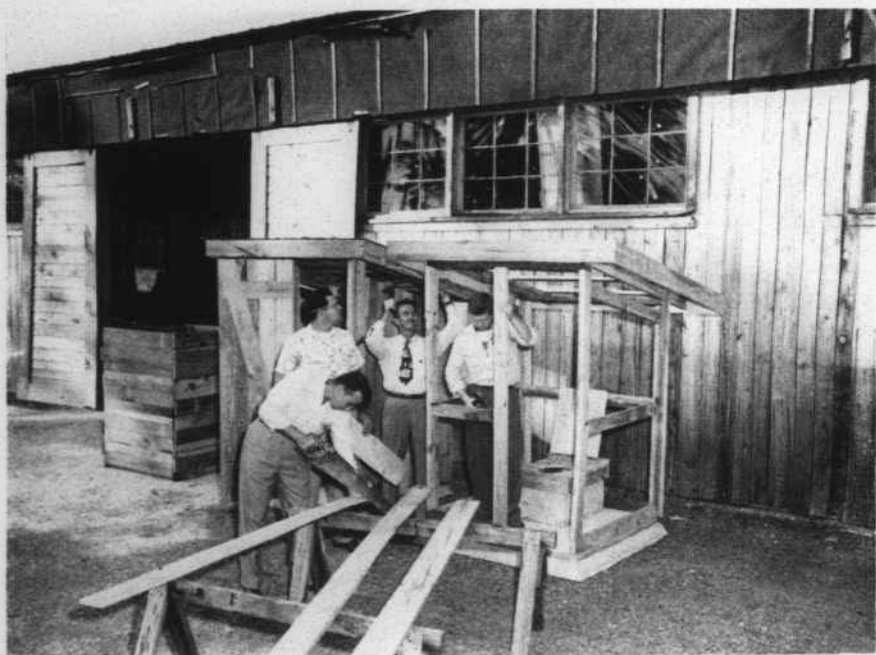
"This concept leads to an impracticable view of the rights and privileges of county commissioners, advisory groups or any other lay group, and their relationship to the county health officer. In other words, this younger group of doctors feel that they should be able to write the prescription and no questions asked, even as to telling the county commissioners, without explanation, why they need funds with which to operate a health program. It is the impression of the staff (at the Field Training Center), that if these individuals could have been in private practice or been employed by a county health unit prior to their acceptance at the Field Training Center, this major difficulty in training would be overcome.



A physician training for a health officer's post watches a patient receiving pneumothorax treatment for tuberculosis

"In the nurse training group," the report continues, "no serious problem was encountered except the attitude of the nurse who had been employed three, six, twelve months or longer in a health department. Due to lack of training, she may have developed a lethargic condition which caused her to feel that the job at hand could not be done because it never had been done in the county from which she came, or was such a big job that she didn't know where to begin. Here a selling job has to be done."

Biggest task the Field Training Center has undertaken lies in the instruction of sanitation personnel. The training center is cheered to note that in recent years "a different type of person with more educational background, has been available. . . . One thing in the immediate future that should be planned is to require more educational background for student sanitarians."



Sanitarians at Field Training Center get chance to see how modern privy is built

The Training Center also finds that some sanitarians who come in for instruction after spending some time on the job are wary of or indifferent to the need for health education in their field. (A note of explanation is due here: There are several types of personnel received at the Training Center: the largest group are those who have never been employed in public health; then there are those who perhaps have been employed for a short time pending the opening of a new session. There is a third smaller group of older employees, who never having had any formal training, come in for a refresher course.) The report notes that the above sanitarians are in many cases "committed almost entirely to the enforcement method of bringing about good public health practices. They tend to be critical of any attempt to educate the people in the philosophies and reasons why sanitation defects should be corrected. . . . It is regrettable to note that some of them have left the Training Center with their ideas unchanged."

Some of the foregoing might sound a bit too critical of the student body, but the Field Training Center director and associates

are continually re-examining the training program and seeking to improve its methods and its results. The Training Center's accomplishments has caused one of the state's leading educational institutions, Florida State University at Tallahassee, to arrange for some of its students to take the course for sanitarians. Under an arrangement with the Training Center, full college credit is given for this field work. When this field work is completed during the student's last quarter of academic training he returns to the university where he is entitled to receive a B.S. degree with a major in health education.

In addition, if the student desires, he may make application for employment with the State Board of Health or with County Health Departments.

What is the basis of the Field Training Center's educational program? It might be generally described as "on-the-job" training. Sanitarians, for instance, accompany sanitarians of the Alachua County Health Department on their rounds, observing their approach, their methods of inspection, the manner in which inspection forms are filled out. This practical experience is supplemented with periodic lectures on the many things sanitarians are expected to know. They are expected to be familiar with the State Sanitary Code, and the penalties provided for failure to comply with those basic laws. What are requirements for drinking water in public places? How can a sanitarian assist a private citizen with his drinking water supply problems? What can be done about faulty sewage disposal methods? How often should a sanitarian check on a dairy to see that the company is complying with sanitary regulations? What is the approved method for taking a water sample? These and many other questions are answered, both in classes and on field trips, where academic examples become practical realities.

As for the nurses, they follow along in the same general course of training for their particular field. They accompany their sister-workers on field trips. They visit and assist with School Health Programs. They participate in visits to prospective mothers, infants, pre-school children. The crippled child, the man with tuberculosis, the woman who needs to be referred to a tumor clinic — all these and many more she sees every day. She learns how to act as a liaison between the public and the many agencies in the community that are set up to aid the health and welfare of our citizens. And she may be surprised to find that her services

SUMMARY BY T

ANNUAL TOTAL NUMBER TRAIN
 FLORIDA STATE BOARD OF HEALTH
 JANUARY 1,

PHYSICIANS

Total _____
 Resigned _____
 Special _____
 Per Cent Resigned _____

NURSES

Total _____
 Resigned _____
 Special _____
 Per Cent Resigned _____

SANITATION ASSISTANTS

Total _____
 Resigned _____
 Special _____
 Per Cent Resigned _____

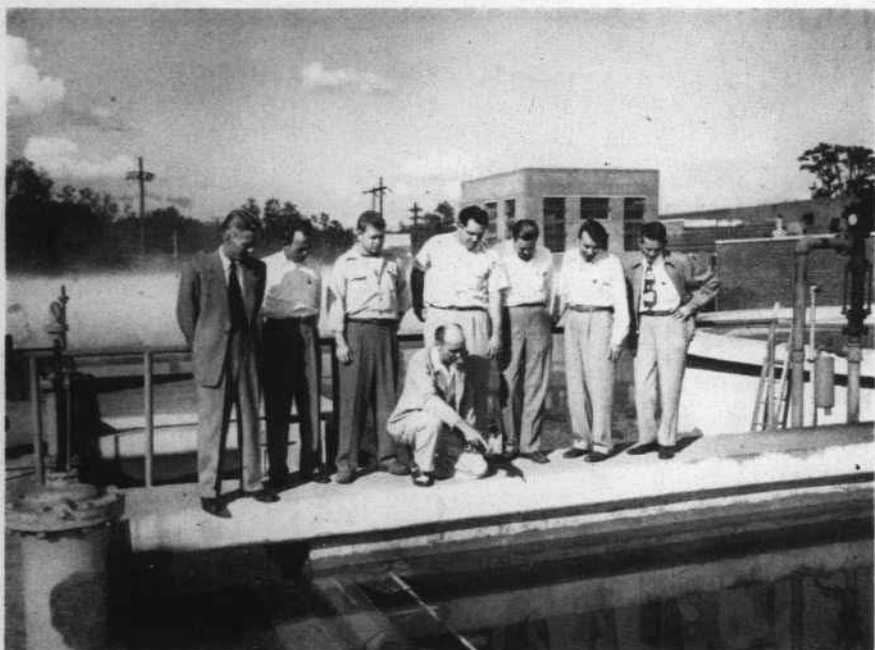
CLERKS

Total _____
 Resigned _____
 Special _____
 Per Cent Resigned _____

CLASSIFICATION

NUMBER AND PER CENT RESIGNED
 NG CENTER, GAINESVILLE, FLORIDA
 EMBER 31, 1949

1946	1947	1948	1949	TOTAL
3	5	9	7	24
3	1	5	3	12
	1	2		3
100	25	71.4	42.8	57.1
17	18	9	11	55
7	8	4	3	22
6	4			10
63.6	57.1	44.4	27.2	48.8
40	33	28	25	126
17	7	5	3	32
1	1			2
43.6	21.9	17.9	12.0	22.5
4	9	11	7	31
2	2	3	0	7
50	22.2	27.2	0	22.6



Just how clean does a public water supply have to be for safety? These budding sanitarians accompany Instructor Charles Cook on tour of water purification plant at Gainesville

are for everyone in the community — the rich and the poor and the in-betweens.

They too, work over reports. They also learn to work with sanitarians on problems of mutual interest, such as polluted water supplies, faulty sewage disposal methods, questionable food-handling practices in schools and other public places, and in other ways. For each person on a county health department staff is a member of a public health team — he or she does not work alone.

Physicians in training to serve as directors of County health departments have a chance to see the whole organization in operation. They learn of the sources from which their money comes to finance operations of a county health department. They become familiar with administrative routine. They have to learn to leap the hurdle that seems to them to divide private practice of medicine from public health service, and to learn of the false barriers that seem to separate the two fields. They have to be thoroughly briefed in the laws which will affect their operations as county health department directors.

Perhaps one of the health officer's most important functions is "program planning." This means that he must learn to know the health problems of his community so intimately that he can see which tasks need to be emphasized. Yet at all times he must maintain a balanced program: maternal and child health, sanitation, vital statistics, control of preventable diseases, school health — all of which are basic to any public health program. All this requires is superior intellect, an excellent medical background, a nose like a bloodhound — and some cash!

Student clerks work with the veteran office staff of the Alachua County Health Department. They learn the technique of compiling the wide variety of reports which must be assembled by a public health agency. They learn the accepted bookkeeping methods, how to make payrolls, to make requisitions and learn to "follow through" on orders for supplies and equipment to insure work continuing at a smooth pace. They learn how to meet the general public: those whom they will greet each day — the rich and poor, the pleasant and the disagreeable.

Establishment of the Field Training Center and devising its instruction program was not an easy thing to accomplish. Dr. Frank Hall, Alachua County Health Officer, was given the responsibility of setting the project in motion and in guiding it through the five years of its existence to the present. Getting the right people to serve as instructors was only one of a number of problems. Says Dr. Hall:

"The most serious difficulty encountered in Florida after the establishment of the Training Center was obtaining personnel qualified and interested in attempting to establish such a center. The concept on which the Training Center was established was to provide training, not of an academic nature, but practical field experience for different types of public health employees. It never was the intention of the Training Center to give college level work.

"The task of finding and employing people who were teachers and who also knew public health was most difficult. It will be recalled that the establishment of the Training Center was in 1946 when World War II had come to a close, leaving people with a period of uncertainty during a readjustment period. Some members of the staff belonged to this group, having been selected more for their educational and teaching background than for their knowledge of public health.

"But these individuals readily adjusted themselves over a period of time to the field of public health, so that the adjustment



Negro nurse training for public health job learns how to obtain necessary data

of these individuals who had never worked in the field of public health is also considered an accomplishment."

Assisting Dr. Hall as members of the Field Training Center faculty at the present time are Louise Kincaid, R.N., and Bertha E. Johnston, R.N., instructors in nursing; Charles E. Cook, and Byron G. Barfield, sanitary engineering specialists, in charge of training sanitation assistants, and Mary M. Wallace, instructor in clerical methods.

With a growing number of trained personnel making a success of public health work in numerous local health departments, the staff is gaining more confidence in the training project and its programs. Late last year staff members sat down and outlined the outstanding accomplishments, the most difficult problems faced during the Training Center's beginning years and in the present, and prepared a list of suggestions for the future of public health training in Florida. Each worked independently and their views do not reflect suggestions by any other staff members.

In the summary of the nursing field, better organization of teaching materials was listed as one of the outstanding accomplishments of this section of the training program. Other achievements include expanded library facilities, which provide better,

more abundant and more pertinent reading material in the field of public health nursing. Also noted were such advances as an improvement in coordination between lectures and field work, and a broadened curriculum through the use of lectures with the sanitation training program.

In a listing of "most difficult problems" facing the training program, a need was indicated for:

1. More public-health-trained nurses for field experience instruction, to give an opportunity for more trainees;
2. More adequate training facilities; (such as more classroom space, etc.);
3. More time for supervision in field and clinic services for student trainees;
4. More adequate transportation facilities, (such as an automobile or station wagon), for trainees so that field experience may be broader and more efficient work done.
5. More time, which could be provided by a longer training period, to develop teaching ability in students.

Among suggestions for the future of training in public health work in Florida, the following were offered:

1. Florida should accept no nurse in any health department unless she has some background in public health, either through field experience or academic training.
2. Provide well-trained personnel in county health departments to give adequate assistance to the nurses being employed for the first time.
3. Use these bigger health departments as centers for field training of nurses who have had, or are having, public health nursing in basic training, thus broadening the curriculum in schools of nursing and thereby extending public health training to more student nurses.

In the field of sanitation instruction, the outstanding accomplishments were cited as the "general acceptance and recognition of the necessity for training," and "confidence in the ability of the Field Training Center Staff to meet this need."

Other achievements include the raising of the level of sanitation personnel in the state, the cooperation of outside personnel in specialized fields, and the opportunity to provide service on problems and activities outside the sphere of Training Center activities.

Among the "most serious problems" of the sanitation course are two points mentioned in the nursing section above: lack of physical and teaching facilities, and lack of adequate transportation facilities. Another point brought out lies in the "limited teaching opportunities because of the low educational level of some trainees."

As to the future of such training, it was decided that:

1. Training should be a basic requirement of all sanitation appointments;
2. Availability of specialized courses in health sanitation work is recommended;
3. More intensive follow-up of sanitarians on the job after training has been completed.

The instructor of the clerical section noted the following outstanding accomplishments:

1. Establishment of a program of training which contains a specified, well-rounded body of instructional material and the opportunity for practical experience in all the activities relating to these records;
2. Improved programs in other phases of the training, which have, in turn, offered to the clerical trainee, a more valuable opportunity for a higher type of learning, and,
3. Opportunity of the trainee to meet and know, in varying degrees, visiting personnel of all types, which also tends to broaden their lives and experience.



Filing systems are no good unless you can find things quickly, this clerk-student at Field Training Center soon learns

Normal personnel turnovers on the local level, the increase in the number of county health departments in the state and the increase in the size of the staffs of some of our larger health departments and the need for "selling training to the trainees" are among the major problems facing this section. The instructor suggests that in the smaller counties training probably should be a requirement for job placement similar to establishing a rating with the merit system.

Also cited was "the lack of enough trained field personnel who can follow the trained clerk back into her home county to assist her in putting into practice some of the improved methods recommended by the Training Center."

As to the future of clerical training, the report notes that "the field is wide open with unlimited opportunities for service of a high type." On the other side of the picture, a caution is sounded that this high type of service "can only be achieved through the medium of public health education with all its relationships."

In other words, the ideal situation would be for the clerk to know at least in general terms the primary functions of a health department and how these functions can be realized in action programs.

Before we go any further, we should explain that the ideal for health officers, public health nurses and sanitarians would involve at least one year of study in some university school of public health. For some of the trainees this is a goal that is eventually reached. But a year of study costs money (even though scholarships may be forthcoming) and necessitates staying away from home and family for a year — which cannot always be arranged. Hence — the Training Center.

How much has the Field Training Center cost the Commonwealth Fund and the State Board of Health? A summary prepared by Dr. Hall shows that expenses for the first four (4) years of the program totaled \$150,013. But for that money the Field Training Center has been able to provide a total of 117,450 days, or an estimated 411 "years" of service days or classroom periods. This fixes the average cost of training per day of service provided at \$1.28.

Of these service days or classroom periods, sanitarians have accumulated the biggest share, or a total of 72,840. Nurses are next, with 21,030 days, clerks third, with 15,270 days, and physicians in training as prospective health officers, 8,310 days.

"Although costs have risen substantially during the past five years," says Dr. Hall, "we feel that we have been extremely fortunate in holding operating expenses down. We believe that

figure will compare very favorably with other types of educational programs and activities. In our opinion, the results have more than justified the expense."

What, specifically, has the Field Training Center done to improve public health in Florida? It would be a hard job to answer that question. Evidence indicates, however, that men and women who have passed the course and have gone into service with County Health Departments appear better suited to their jobs and better adjusted to their responsibilities in protecting the populace against the diseases and dangers which a public health program is designed to combat.

One of the problems faced by the State Board of Health in regard to the Training Center is the question of continued financing. When the Commonwealth Fund first came into the picture in 1946 during the Training Center's first year of operations, that philanthropic organization carried the full financial load for the first year. The next year, only 80 per cent of the total cost was forthcoming from this source. Each year since, through 1950, the Commonwealth Fund has reduced its grant by 20 per cent. During 1951 the state must be prepared to assume the whole burden.

The Commonwealth Fund appears satisfied with the results. As this is written, that public-health-minded foundation, in cooperation with Dr. Hall, is preparing a report on what has been accomplished by the Training Center in Florida. This report will be made available to other states which may desire to establish a similar program of instruction.

For the battle against death and disease which a public health agency is designed to fight is an unending struggle. It takes people, trained people, who are prepared with facts and the necessary techniques, to reach Florida citizens with health information and procedures. Spokesmen for the Training Center believe the organization has and will continue to do its significant share in helping to extend the healthy, productive life span of the average Florida citizen.

ATTENTION HEALTH NOTES READERS!

In the December, 1950, issue of **FLORIDA HEALTH NOTES**, entitled, **AND SO — ANOTHER YEAR**, the following **CORRECTIONS** should be made:

On Page 209 of that issue, in the statistical table on death rates, the figure on death rates per 1,000 population should be revised from 10.4 as shown to 9.5.

On Page 210 of the same issue, in the paragraph on **PREVENTABLE DISEASES**, reference to diphtheria, typhoid and paratyphoid should read **CASES** (instead of deaths as written). Actually deaths in these categories during 1949 were: Diphtheria, 10; Typhoid, 5, and Paratyphoid, 2.

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All counties in Florida have organized county health departments except
LEE, ST. JOHNS and COLLIER COUNTIES

FLA. STATE LIBRARY
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HN 5-46

The rapid expansion of the public health field and the development of a large number of specialties will necessitate many different groups of public health workers in the future. Public health is not an individualized branch of science, like chemistry or mathematics; it is a field of activity in which a variety of workers have a common aim.

The background of the cover is a black and white photograph of a classical building with several large columns. The words "STATE BOARD OF HEALTH" are inscribed on the pediment above the columns. The title "Florida" is written in a large, elegant script font across the top, with a long tail that extends down the left side of the cover.

Florida

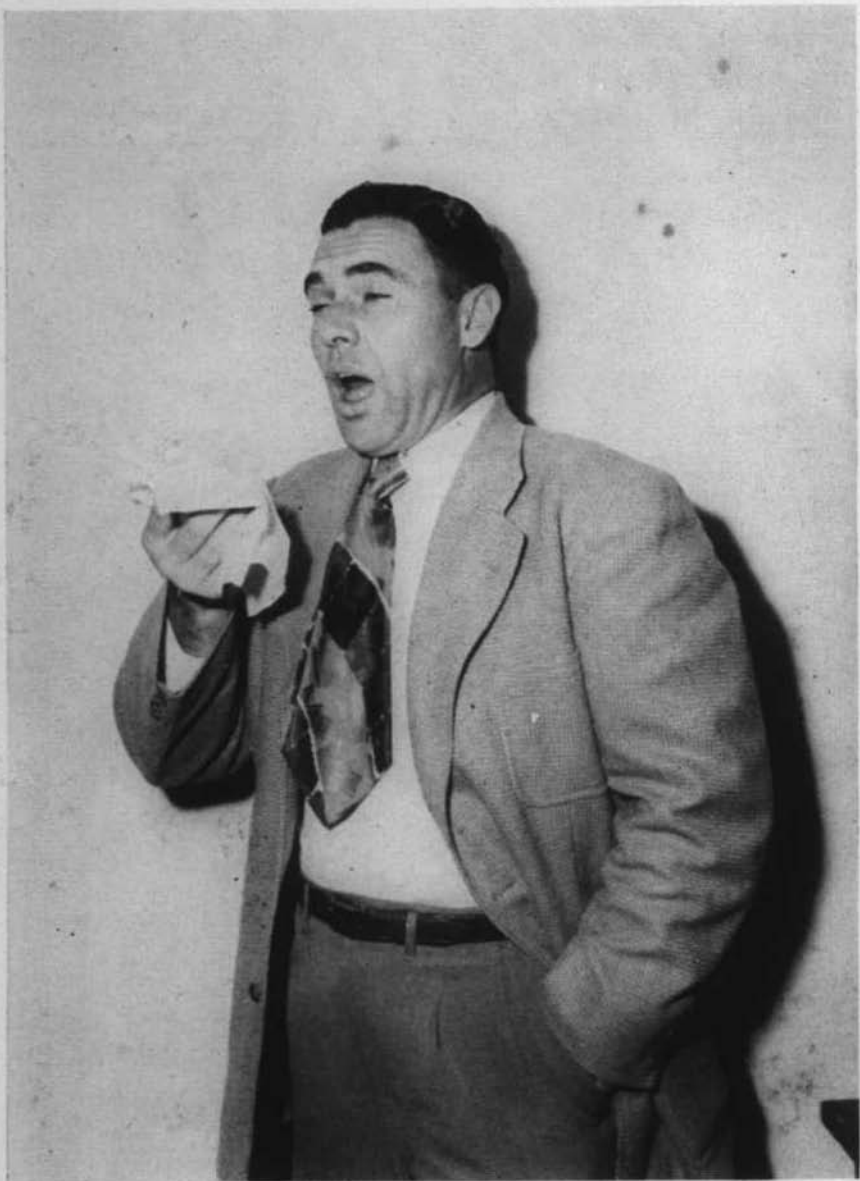
HEALTH NOTES

STATE BOARD OF HEALTH

FEBRUARY
1951

ABOUT BREEZES AND SNEEZES

Vol. 43
No. 2



KA-CHOO

Here is a picture of a man who is a victim of ragweed hay fever.

ABOUT BREEZES AND SNEEZES

"I am a sufferer of hayfever which is caused by ragweed. Please advise me if Florida or any section of the State is free of this menace as I am seriously considering making Florida my permanent residence." "I am allergic to ragweed and goldenrod. Is there any place in Florida where I can escape these plants?" "My son has hayfever from ragweed. Whereabouts could he live in Florida to be free of this ailment?" These are excerpts from actual letters recently received by the State Board of Health, and over the years we have received thousands like them.

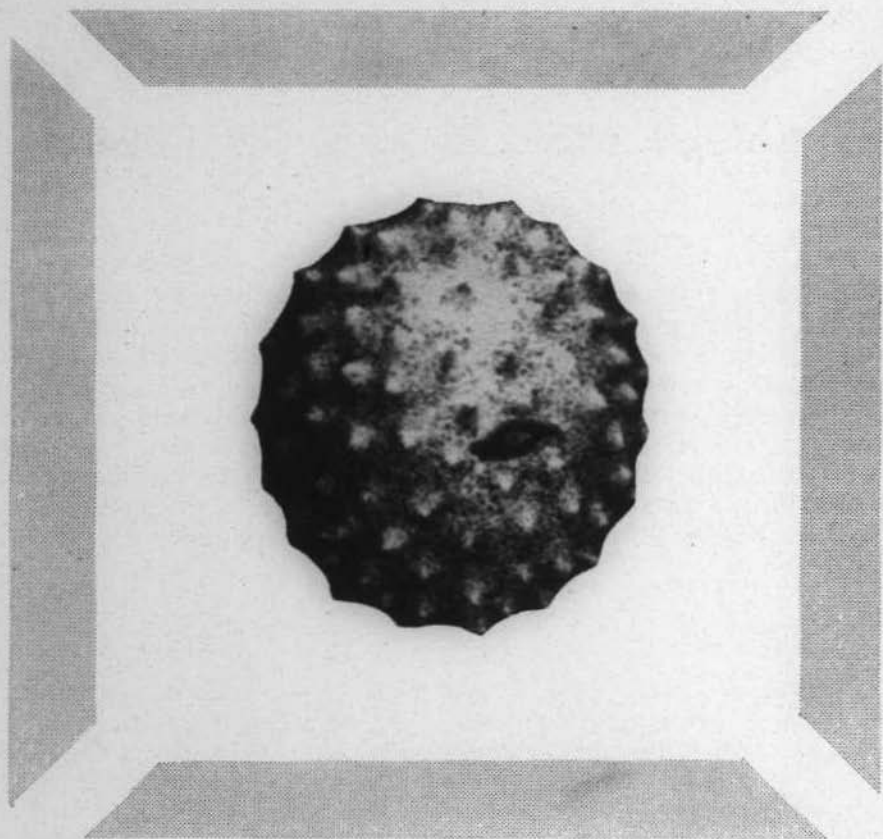
SIGNS

Maybe you know some of these unlucky people who sometimes have an attack of hayfever caused by **ragweed**. You know how uncomfortable they are. Their eyes and noses run water in streams, they have spells of sneezing: sometimes you hear the wheezing in their chests. It is no wonder they are looking for a place where they can get relief from their illness. That is why we get so many letters from people all over the United States asking about ragweed in Florida.

In order to help these people, the State Board of Health set out to get the facts about ragweed pollen in Florida. In the Fall of 1949 plans were drawn up for making pollen counts in a number of cities throughout the State. Early in 1950 the State Board of Health, through the Division of Industrial Hygiene, put the plan into operation.

FLORIDA HEALTH NOTES

Published monthly except July and August on the 5th of the month by the Florida State Board of Health. Publication office, Jacksonville, Fla., headquarters of the State Board of Health. Entered as second class matter, Oct. 27, 1921, at post office, Jacksonville, Fla., Act of Aug. 24, 1912. It is intended primarily for individuals and institutions with an interest in the state health program, public and private. Permission is given to quote any story. Clippings of quotations or excerpts would be appreciated.



Ragweed pollen grain (greatly magnified).

POLLEN

Before we go further, let us stop for a minute to answer the question, "What is pollen?" If we look in the dictionary we find that the word "pollen" comes from a Latin word meaning "fine flour." As we see it under the microscope, pollen is a very fine dust or powder made up of grains of different shapes and sizes. Each kind of pollen has its own size and shape. Ragweed pollen is a little round grain covered with short knobby spikes.

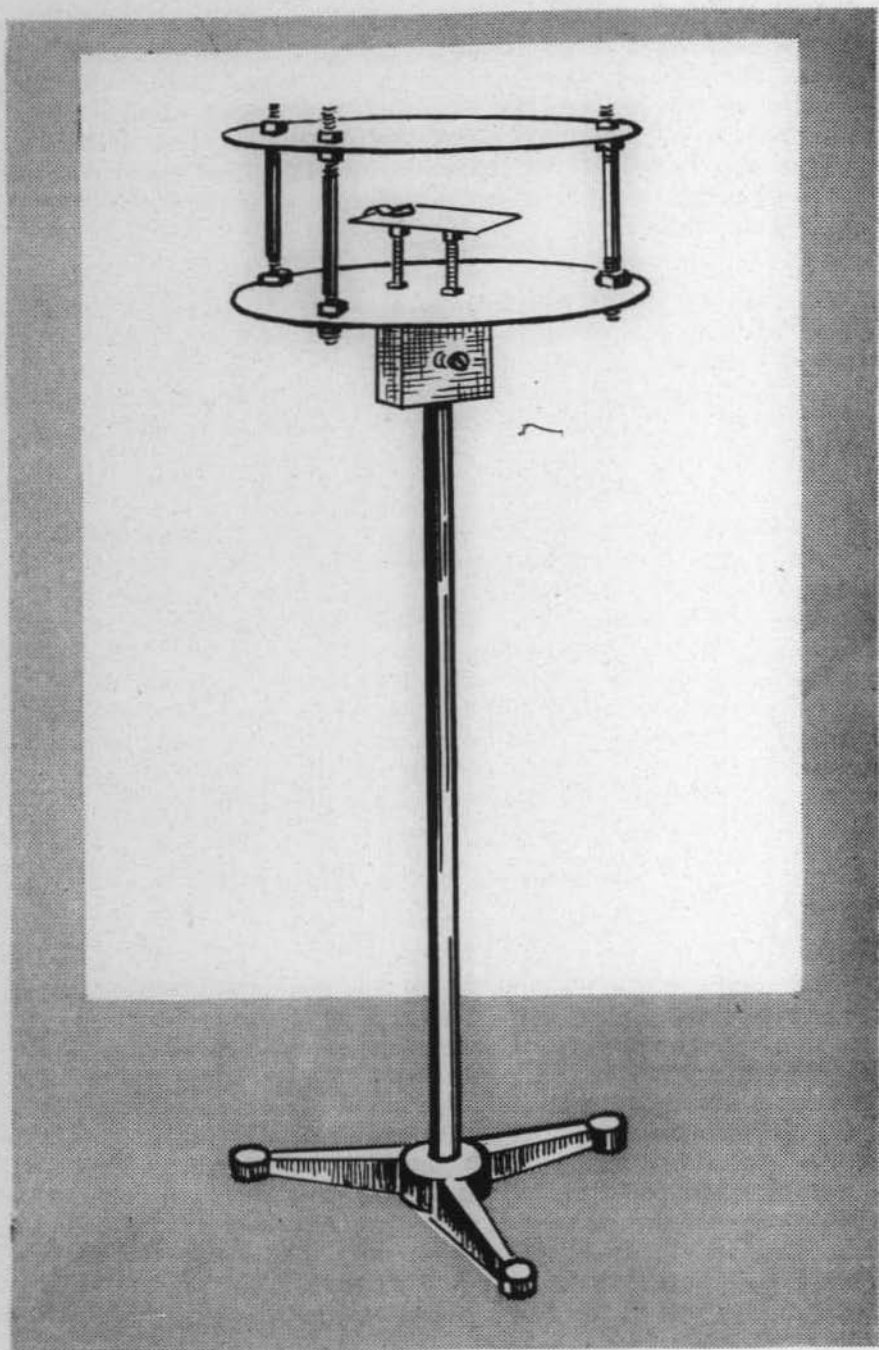
Pollen is formed in the stamens of flowers. Before a plant can produce seeds this pollen must be brought to the pistils of the flower. Sometimes plants have both pistils and stamens in the same flower and the transfer of pollen is a simple process. The pollen falls from the stamens onto the pistils. At other times the stamens and pistils are in separate flowers, sometimes even on separate plants. In such cases the pollen must be carried from one flower to another.

Pollen is usually carried by insects such as bees and butterflies. When a bee enters a flower to get honey he brushes against the stamens and some of the pollen sticks to his wings, his body or his feet. This pollen is carried to the next flower that the bee visits and some of it gets on the pistils. This is what is called insect-borne pollen.

But some plants do not have honey in their flowers and they are not visited by bees or other insects. These plants produce large quantities of pollen which is carried by the wind to the pistils in other flowers. This kind of pollen is said to be airborne. Ragweed pollen is a good example of airborne pollen. When sensitive people breathe in the pollen that is floating in the air they come down with an attack of hayfever. Of course there are many kinds of airborne pollen that do not cause hayfever. For example, the pollen from pine trees is carried around by the air in tremendous quantities but it is harmless to human beings.

TRAPS

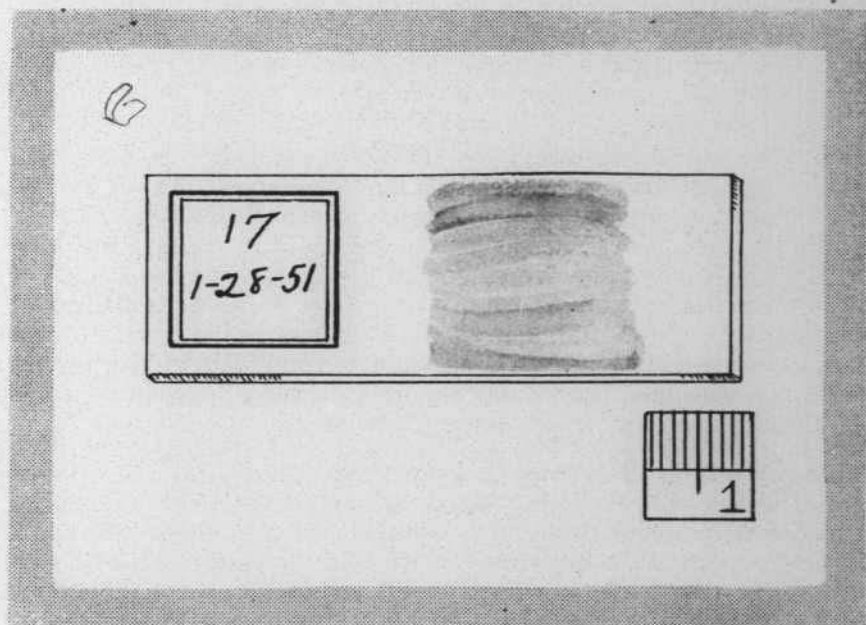
The next question is "How do we find out what kinds of pollen are being carried in the air?" This is done by pollen traps like the one shown in the picture. Between the two flat metal discs there is a place to hold a glass slide, one inch wide and three inches long. The upper disc protects the slide. Part of the slide is covered with a thin layer of vaseline. The slide is left in the trap for twenty-four hours. Some of the pollen floating around in the air falls on the slide and sticks to the vaseline. A fresh slide is put in the trap each day. All the slides have labels carrying the date and the trap number. At the end of the month all the slides that have been exposed are put in a box and shipped to the Division of Industrial Hygiene in the State Board of Health office in Jacksonville.



A pollen trap.

EXAMINATION

The next job is to examine the slides under a microscope to find out what kinds of pollen are present and how many of each kind. First a drop of special staining fluid is put on the slide. The fluid colors the pollen grains red so that they are easy to find. Under the microscope we count the number of pollen grains in an area of one square centimetre. We keep records of all the different kinds of pollen that show up on the slides. So many kinds are seen that a full report would be confusing so that in this report we will consider ragweed pollen only. It is the most important because it is the commonest cause of hayfever.



Microscope slide, greased and labeled, ready for exposure. Also an area of one (1) square centimetre is shown, the portion of the slide on which the pollen is counted.

LOCATIONS

At present there are 21 pollen traps in operation. They are located as follows: — Jacksonville (3), Daytona Beach, Melbourne, Morrison Field (west of Palm Beach), Fort Pierce, Miami, Miami Beach, Fort Myers, Sebring, St. Petersburg, Tampa (2), Key West, Bradenton, Orlando, Ocala, Tallahassee, Panama City and Pensacola. The majority of these stations are in areas which cater to tourists. They include most of the coastal winter resorts. They are from 100 to 150 miles apart so that they give us a good general picture of ragweed in this state. Let us have a look at the pollen counts from some of these locations.

1. The pollen trap at **St. Petersburg** was placed on a post near the Weather Bureau instruments in the little park around Mirror Lake. It was on the borderline between the business and the residential portions of the city. Slides were changed daily by personnel from the Pinellas County Health Department. Here is the ragweed pollen counts for St. Petersburg for 1950.

June	July	Aug.	Sept.	Oct.	Nov.
0	4	6	16	8	0

Now to look at these figures a little more closely. In the whole month of July, only 4 ragweed pollen were seen. Two of these were found on one day and 1 on each of two other days. These counts are very low. Similarly the total count in August was low. Only 6 grains of pollen were seen in the whole month and all of these occurred in a clump on one slide. In September the count was a little higher. On one day 8 ragweed pollen grains were found clumped together on a slide. No other day in September had a count higher than 2 grains. In October the count dropped off, the highest number of pollen found on any one day was 2.

Just what do these counts mean? How many ragweed pollen would we have to find on a square centimetre of slide before we would conclude that there was enough pollen in the air to cause hayfever in people who were sensitive to ragweed? From observations in other states it is pretty well agreed that there must be at least 7 grains of ragweed pollen on a square centimetre before hayfever patients begin to have symptoms. In the whole four months of the ragweed season in St. Petersburg there was only one day on which the count exceeded 7. That is a very good record indeed.

Besides having a pollen trap in operation it is a good idea to spend some time looking for any growth of ragweed in the neigh-

borhood of the trap. In St. Petersburg there were a few clumps of ragweed plants growing on cultivated spots that might have been used as gardens during the winter. Most of these spots were well over a mile away from Mirror Lake. Only a few scattered plants could be found near the trap.

For 1951 we expect to have the St. Petersburg trap in a residential area. Another trap will be set up in Clearwater during the ragweed season and perhaps another in Tarpon Springs so as to get a better idea of the presence of ragweed in Pinellas County which is patronized by so many tourists.

2. The **Bradenton** trap was placed on the flat roof of an office building in the center of the business district. It was serviced by personnel from the Manatee County Health Department. Following is the ragweed count for the Bradenton trap.

May	June	July	Aug.	Sept.	Oct.	Nov.
16	20	22	14	7	18	3

The ragweed season extended over a period of nearly seven months. However a count of 7 or more pollen grains was found on only two days, namely May 26 and June 3. The counts on the other days were all well below this figure. No check was made for the presence of ragweed plants in the Bradenton area.

3. **Fort Myers** was the next station south of Bradenton. Mr. R. Q. Richards operated this trap which was set up on the lawn of his residence in the southeastern part of the city. Following is the ragweed count for Fort Myers in 1950.

June	July	Aug.	Sept.	Oct.	Nov.
3	0	1	5	0	0

These figures tell their own story. They are very low. There was not even one day during the 1950 season when the count reached 7 grains per square centimetre, in fact the highest count on any one day was 3. No survey for the presence of ragweed plants was made in the vicinity of Fort Myers. This is one of the lowest counts in the state.

4. The **Key West** station was located on top of the postoffice building near the center of the city. It was serviced by personnel from the Monroe County Health Department. Unfortunately two boxes of slides were lost so that our records are not complete. However a representative of Abbott Laboratories had made a study during the previous summer. Putting all the figures together it appears that only 20 ragweed pollen grains were seen during the whole season. There were no days on which the count

reached 7. A brief survey showed the presence of a few ragweed plants in scattered areas around the edge of the city. These plants were a low creeping variety of ragweed which is said to produce very little pollen.

5. In the city of **Miami** the station was located on the seventh floor of the Dade County Courthouse. It was operated by personnel of the Dade County Health Department. The ragweed pollen count for Miami was as follows:—

June	July	Aug.	Sept.	Oct.	Nov.
0	0	6	17	0	0

On only one day, namely September 8, did the count exceed 7. At this time there was a tropical storm in the neighborhood and the wind direction was from the mainland rather than from the usual direction, off the ocean. Otherwise all counts were low.

The area around Miami was checked and large stands of ragweed were found in truck farming areas southwest of the city. Also a few small growths of ragweed were seen in the western part of the city. This situation is discussed in detail later.

6. In **Miami Beach** the pollen trap was placed on top of the postoffice building near the middle of the residential area in the lower half of the island. It was serviced by personnel from Dade County Health Department. Here are the ragweed pollen counts for Miami Beach for 1950.

June	July	Aug.	Sept.	Oct.	Nov.
0	0	7	1	0	0

Throughout the whole season only 8 ragweed pollen grains were seen. The highest count on any one day was 3. Other observers have previously studied this area and all the findings were low.

The island was carefully checked but only a few isolated ragweed plants were found. Some years ago the island had been cleared of ragweed by hand pulling.

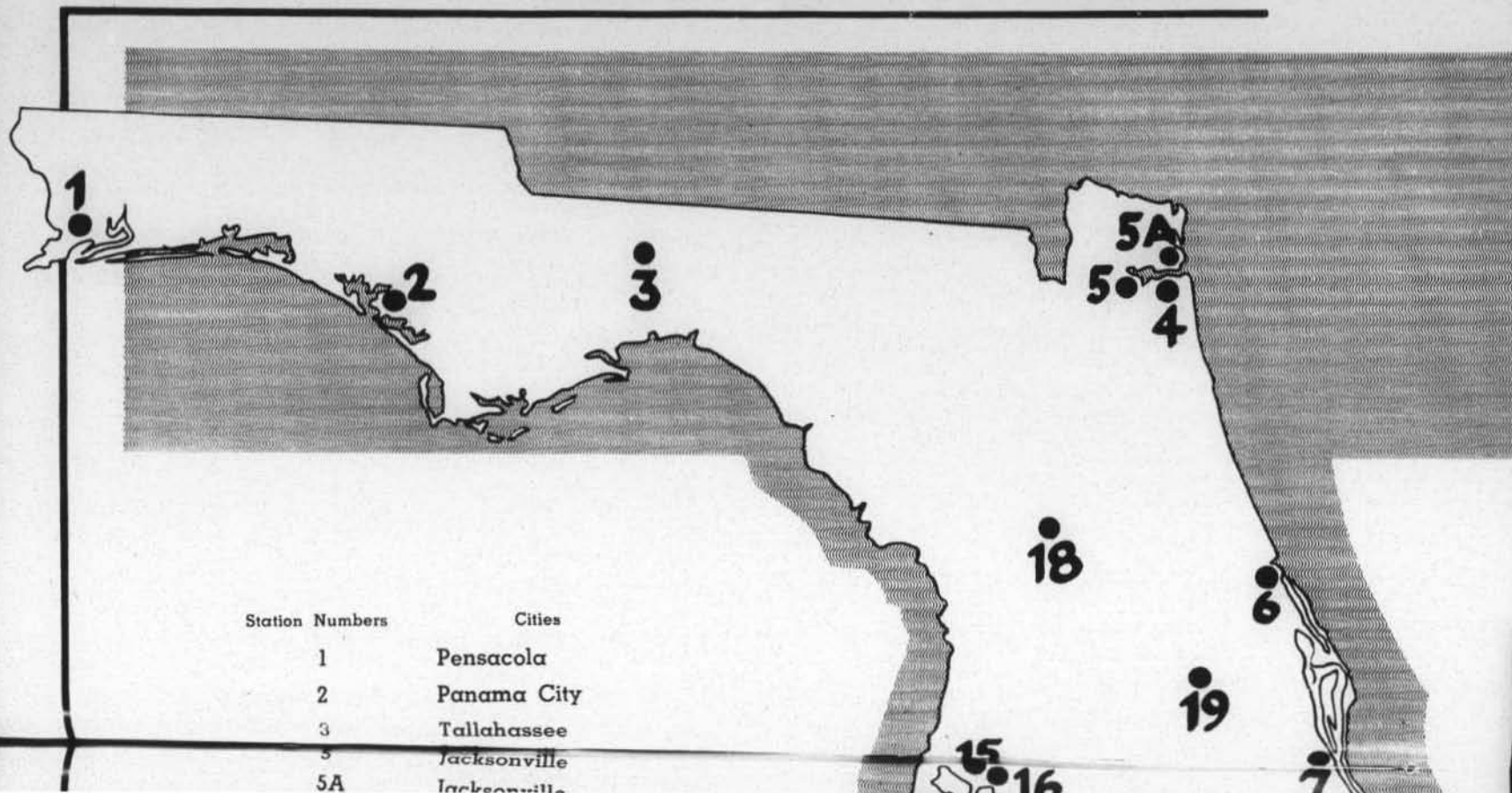
7. The **Melbourne** trap was placed in the Rapid Treatment Centre which is housed in a former Naval Air Station at the western edge of the city beyond the residential district. It was at least five miles inland from the beach. It was set on top of a covered walk at an elevation of about ten feet above the ground. Slides were changed by a technician at the Centre. Following is the ragweed pollen count for this station for 1950.

May	June	July	Aug.	Sept.	Oct.	Nov.
1	0	14	157	152	16	0



One of our collaborators changing a slide in a pollen trap.

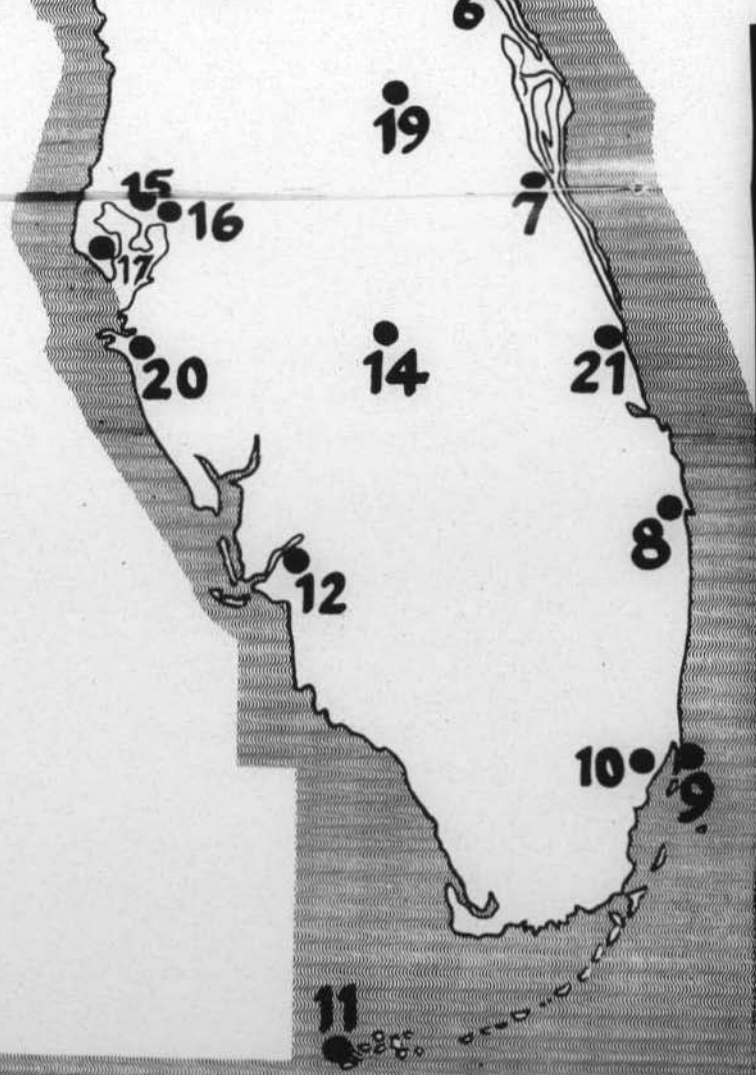
POLLEN TRAPS IN FLORIDA



Station Numbers

Cities

1	Pensacola
2	Panama City
3	Tallahassee
4	Jacksonville
5A	Jacksonville
6	Daytona Beach
7	Melbourne
8	West Palm Beach
9	Miami Beach
10	Miami
11	Key West
12	Fort Myers
14	Sebring
15	Tampa
16	Tampa
17	St. Petersburg
18	Ocala
19	Orlando
20	Bradenton
21	Fort Pierce



The count was 7 or more ragweed pollen grains per square centimeter on 8 days in August and 6 days in September. Altogether there were 14 days during the season when the ragweed count was high enough to cause sensitive persons to suffer from hayfever.

The survey in this area showed numerous small truck farms west of the trap location. Also there was considerable growth of ragweed on the grounds around the hospital. These results can hardly be considered a true picture of conditions within the city itself. If future counts are done here the trap should be placed in the residential area.

8. In **Daytona Beach** the pollen trap was located on the flat roof of a firehall in the eastern part of the city. It was operated by personnel from the Volusia County Health Department. The 1950 ragweed pollen counts for Daytona Beach are as follows: —

May	June	July	Aug.	Sept.	Oct.	Nov.
0	0	12	27	1	0	0

The only day on which the count reached 7 was August 30. All the remaining counts were low. As is true in other East Coast cities the prevailing wind in Daytona Beach is off the ocean, i.e., from the southeast.

This area was not checked for the presence of ragweed plants.

9. Three stations were operated in the **Jacksonville** area. The one which is reported here was located on the lawn of a private residence in Southside Estates, a subdivision about eight miles east of the city and eight miles inland from Jacksonville Beach. It was operated by an employee of the State Board of Health. Following is the 1950 report from this station.

May	June	July	Aug.	Sept.	Oct.	Nov.
0	0	10	37	40	4	0

On only two days, August 12 and September 23, the count was 7 or more. Other counts were well below this figure.

A check of the area around this station showed a small number of ragweed plants along a newly constructed highway which ran along one side of the subdivision. For lack of room the other two stations in Jacksonville are not reported. They will be included in a later publication.

10. Of the three inland stations, the one at **Sebring** was the farthest south. It was serviced by personnel from the Highlands

County Health Department. The 1950 ragweed pollen counts are as follows:—

May	June	July	Aug.	Sept.	Oct.	Nov.
3	0	5	1	10	12	33

This count differs from all the others. The earliest occurrence of pollen was a count of 3 grains on May 4. Another point worthy of note is that most of the ragweed pollen was seen in November. This is the longest ragweed pollination yet seen in Florida but in spite of the length of the season there was only one day on which the count reached 7.

11. The **Orlando** station was set on a post on the grounds of a branch laboratory of the State Board of Health and was operated by one of the laboratory technicians. This station is midway between the east and west coasts and about half way down the state. Following are the 1950 ragweed pollen figures for Orlando.

May	June	July	Aug.	Sept.	Oct.	Nov.
0	0	169	418	297	114	0



Housewives have hay fever, too.

These are the highest counts found in the state so far. In the 1950 season there were 29 days on which the ragweed pollen count was 7 or more. These days were distributed as follows: — 6 in July; 8 in August; 10 in September; and 5 in October. The season began on July 1 and ended on October 15.

No check was made for ragweed plants around this station. However it is known that there is a farm under partial cultivation to the south of the station.

12. In **Pensacola** the trap was located on the roof of the post-office building in the northern part of the business section about one mile from the bay waterfront. It was operated by personnel from the Escambia County Health Department. Ragweed pollen counts for 1950 were as follows: —

May	June	July	Aug.	Sept.	Oct.	Nov.
0	0	5	56	1	9	0

August 3 and August 11 were the only days on which the count exceeded 7. No check was made for ragweed plants. Favorable winds off the Gulf of Mexico may contribute to these low counts.

13. The station in **Tallahassee** was located on the flat roof of the Tallahassee Memorial Hospital in the northeast section of the city. It was operated by personnel from the Leon County Health Department. The count for this station was as follows: —

May	June	July	Aug.	Sept.	Oct.	Nov.
0	0	1	13	51	4	0

There were three days during the season when the ragweed pollen count was 7 grains or more, namely, August 28, September 5, and September 7.

This area was not surveyed for ragweed plants. According to plans for 1951 the station will be changed to a location in the residential section where the trap will be closer to ground level.

Several other stations were in operation for a part of the year. In some cases they did not include all of the ragweed season. In others there are gaps due to breaking of slides in transit. It is therefore impossible to give a complete report of all stations. However individual sheets will be prepared for every station for distribution later.

Many of the original stations will be continued in operation. It is hoped that some new stations will be established for use in 1951. If it is possible it would be helpful to define the areas of heavy ragweed infestation rather more accurately.

While this report includes only the counts of ragweed pollen, we also have some figures on grass pollen and tree pollen. As soon

as the figures for a twelve month period are available, the counts on all pollen will be published for each pollen trap.

VARIETIES

Most of the ragweed plants found in Florida belong to the dwarf variety. "Dwarf" seems to be a rather unsuitable adjective to use in describing a plant which often grows over six feet high. It is found mainly in places where the top soil has been disturbed by man; for example, alongside newly graded roads where grass and other native plants have not yet been able to establish themselves. It is often seen around farms where fields are allowed to lie fallow during the summer. It may even be used as a windbreak to protect newly planted vegetables. It is very common in the area around Lake Okeechobee and also in the large truck farming region that lies southwest of Miami. Around Key West and other coastal areas there are small patches of a creeping form of ragweed. This type does not produce much pollen and the pollen grains are larger than those of the dwarf ragweed. Probably the creeping ragweed is not of much importance in causing hayfever.

SPECIAL POINTS

Some other points about ragweed in Florida are worth further discussion. When one considers the heavy growth of ragweed plants south and southwest of Miami, it is somewhat surprising to find such low counts on a slide exposed in that city. One would expect the counts to be high. Still our records as well as those of other observers who have studied the same area, show that ragweed pollen is rare in Miami. One factor influencing the low count may be the prevailing southeast wind which blows off the ocean and thus tends to carry the pollen inland. But this is certainly not the whole story. Another factor is present, namely, the clumping of ragweed pollen so frequently observed on our slides. Ragweed pollen is often seen in clumps of as many as 25 grains in contrast to the single grains seen on slides in the North. Furthermore these clumps of pollen often appear to have a light coating of an oily material similar to the oil surrounding many types of insect borne pollen. It appears reasonable to suppose that these clumps of pollen would not travel through the air as far as single grains would go.

As the reports already given show, the ragweed pollination season in Florida is longer than in other states. Perhaps this is due to the long growing season. Other possible factors are the high relative humidity and the season of heavy rains which occurs in the late months of summer and early fall.



Flowers and leaves of the dwarf ragweed plant commonly seen in Florida.

SEASONS

In most states pollen studies are carried on for a few months in the Summer. In Florida, however, there are flowers in bloom during the whole twelve months of the year. There was no information on the length of the pollination season for any plants whether they caused hayfever or not. It was necessary to carry the study throughout the whole year so that no pollen would be missed. Because of the variations in temperature from year to year, probably pollen counts should be carried on for three years before reasonably accurate averages could be set up. One noteworthy effect of weather changes was the sudden fall in pollen counts following the severe tropical storm about the middle of October.

DIVERSITY

Pollen counting in Florida is further complicated by the fact that the state has many trees and flowers not found in other states. One example is the so-called Austrilian pine which is commonly planted as an ornamental tree especially in the southern half of the state. Allergists in Florida have already shown that the pollen of this tree does cause hayfever in a few sensitive people. Another example is the water mangrove, a shrub growing in profusion along the Keys and existing northward along both coasts. One case of hayfever is reported to have been caused by mangrove pollen. Another tree that has been under suspicion is the woman's tongue tree which is common over the lower end of the peninsula and occurs even as far north as Orlando. This tree belongs to the mimosa family and its pollen is rather too large to be carried far by the wind.

These are only three examples of trees peculiar to Florida. There are many others remaining to be studied. For example, there are said to be 28 different varieties of oak trees occurring naturally in the state. They vary from the evergreen live oaks which grow to a tremendous size to the little scrub oaks seldom more than three feet in height. All of these oaks bear acorns, all of them produce large amounts of pollen early in the year. This airborne pollen is found in great quantities on our slides. A wide variety of palms can be found almost everywhere in the state but it is unusual to see their pollen on a slide. Pollen from gum trees is also rare.



Stenographers are not immune to hay fever.

LACKS

Some of the hayfever plants common in other states are not found here to any great extent. As for one example, timothy grass is not grown in Florida. Other varieties of grass are common and one or two grains of grass pollen may be caught on slides in almost every month of the year. No attempt has been made to identify the different varieties of grass pollen. Goldenrod is rather a rare plant in Florida. The chenopods such as dock and lamb's quarters are seen occasionally but do not seem to produce much pollen. English plantains and the pigweeds are far from common. Pecan orchards are numerous in the northern part of the state. Pecan pollen is rarely found on slides but may be a factor in causing hayfever in people living near the trees.

CONTROL

There are several methods for controlling the growth of ragweed plants. The simplest method is to pull up the plants by hand. This can be done on small areas where there is a great deal of ragweed. As previously mentioned, this method was used some years ago on Miami Beach and the results were excellent. The next method is to use mowing machines to cut the plants several times a year. If this is done often enough, the plants can be prevented from coming into flower and releasing pollen. Another plan which is sometimes used is to spray the plants with a chemical like 2,4-D. This chemical will kill ragweed plants without injuring grass, but it also kills other broad-leaved plants so that it must be used carefully in order not to damage ornamental shrubs. All these methods have been used in other states with a good deal of success.



ACKNOWLEDGEMENTS

Acknowledgement is made to the following individuals and organizations for their valued assistance in carrying out this study:

The personnel of the respective county health departments who faithfully changed slides in the pollen traps during the year.

Mr. R. Q. Richards of Fort Myers who operated Station No. 12. Mr. and Mrs. Everett S. Saxe of Southside Estates, Jacksonville, who were responsible for Station No. 4 Mr. E. C. Hazen of the Rapid Treatment Center at Melbourne.

Dr. R. F. Sondag, who drew up the original plan for this survey.

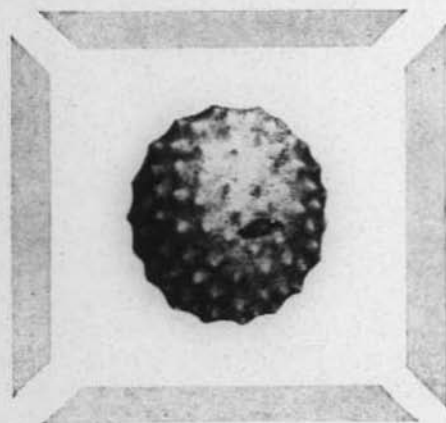
Professor Erdman West of the University of Florida for providing encouragement and much useful information.

Mrs. Lillian B. Fly of the University of Miami for information on the flora of Dade County.

Mr. O. C. Durham, Chief Botanist of Abbott Research Laboratories for solving many problems.

Mr. F. J. Vintinner, Director of the Division of Industrial Hygiene in the New Hampshire State Health Department, for practical suggestions in the conduct of the survey.

Employees in the maintenance workshop of the State Board of Health for making the pollen traps used in this study.



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*Weeds, grass, shrubs and trees
Stroked in season by the gentle breeze
Scatter pollen throughout the land
In accord with nature's plan.
Often causes sneezes and wheezes
In those having allergic diseases.
Grass, shrubs and trees fill many needs
But all can do without the weeds.
To whom such pollens are a pain
The course of action is quite plain
Cut the weeds you cannot trust
To a kinder place move if you must.
Refuge a-plenty in Florida is found
For those willing to look around.*

Wilson T. Sowder, M.D.



Florida

HEALTH NOTES

STATE BOARD OF HEALTH

MARCH
1951

CIVIL DEFENSE AND YOU

Vol. 43
No. 3

CIVIL DEFENSE AND YOU

Something New Has Been Added

The searing white light and the crushing force of the atom bomb which smashed Hiroshima, Japan, on a warm August day in 1945 ushered in a new era in world history — the Atomic Age. It brought into being a power which is destined to have a profound effect both for good and evil on the human race. The evil that it can do has been amply demonstrated in the number of dead, maimed and crippled at Nagasaki and Hiroshima. Its tremendous possibilities for good are more slowly being realized. In the field of medicine, the by-products of atomic energy are being used for diagnosis and treatment of a great many ailments. Physicists see in the splitting of the atom the greatest potential source of power for peacetime uses the world has ever known.

But it is with the warlike uses of the atom that we are mostly concerned today. Has man in his quest for weapons of war produced something that will get beyond his control? Will he wreck not only himself, but the earth as well? Is there any means of protection against the atom bomb and its bigger and much more powerful counterpart — the "H" bomb? And why should the Florida State Board of Health be concerned with the problems created by the atom bomb? What can a public health agency do to protect Florida's citizens against this new peril to existence?—

The opinion of experts at this time is that a chain reaction, which would ignite all elements and thus turn the earthly globe into a flaming mass is an impossibility. Man may kill men by warlike use of the atom bomb but there is no chance that he will destroy the earth.

But while leaders of the nations in the world work for a plan that will outlaw or control the warlike uses of the atom bomb, we still face one big problem: until such time as we can develop a control program, we are faced with the problem of protecting ourselves against this new risk to human life.

There is one significant thing about the appearance of the atom bomb as an instrument of war. It brings war much closer to home. There was a time when war was waged primarily between men in uniform, fighting each other. But the new trend, emphasized in World War II, is to direct a larger share of the attack effort at the civil population — at people at home instead of fighting men in the field. For the new concept of war is that if you can crack the home front, it becomes progressively easier to crack holes in the battlefield. Therefore, protection of the civil population, becomes increasingly more important.

SOMETHING NEW

The point that we want to stress is that protection can be provided against the atom bomb. Such protective measures can materially reduce the number of deaths. Prompt treatment of the injured can save more lives that way. But it will take planning, preparation and participation of everybody to make that possible.

A Civil Defense program is being created to provide this protection, to enlist the help of people in safeguarding lives against that day when the "homefront" of World War III may be turned into the "battlefront" of any future conflict. And the knowledge of the medical and allied professions, and the public health services will be utilized in a program designed to provide mutual protection against the war dangers suddenly created by the Atomic Age.

What can be done to protect the people? Let's go back a bit and review briefly what happened at Hiroshima and Nagasaki to get some idea of the problem. In those Japanese cities many thousands were killed outright by blast and heat. The blast alone was calculated as being equal to firing off 20,000 tons of TNT, most powerful explosive ever developed by man up to the time the atom bomb erupted. But more frightening than the effects of the blast and heat was the appearance of a new type of illness. Later this type of illness was diagnosed as "radiation sickness" caused by radioactive rays let loose as the atoms within the bomb were literally pulled apart by a vast churning surge of power. This radiation sickness claimed additional thousands of lives, left others scarred and crippled.

Even before the atom bomb made its debut over Hiroshima, doctors and scientists were pondering ways of protection against it. For the production of the bomb offers many hazards of its own. These medical and scientific specialists debated the dangers — and the benefits — of atomic energy. They gave reassuring word that peacetime application of the new discovery promised many things which could help mankind. Atomic energy, they said, would provide a new source of power, new aids to medical research and treatment, much as the X-ray had provided some years before. But while people listened with some interest to the tales of wonders to come from atomic energy, the question uppermost in the minds of all was: how can we defend ourselves against this new force?

FLORIDA HEALTH NOTES

Published monthly except July and August on the 5th of the month by the Florida State Board of Health. Publication office, Jacksonville, Fla., headquarters of the State Board of Health. Entered as second class matter, Oct. 27, 1921, at post office, Jacksonville, Fla., Act of Aug. 24, 1912. It is intended primarily for individuals and institutions with an interest in the state health program, public and private. Permission is given to quote any story. Clippings of quotations or excerpts would be appreciated.

WORKING TOGETHER

In the five years and more since the bomb laid waste to Hiroshima and Nagasaki, thousands of men and women have worked on the problem. Physicists, doctors, military men and others of the learned professions made exhaustive studies of the damage caused when tiny particles of matter go on the rampage, killing, maiming and destroying. They came to know that the bomb has its limitations and to learn something of how to protect against the new power. To military men, atomic energy is merely another new weapon which can be utilized in warfare. They are confident that countermeasures can be designed against it—just as countermeasures have been designed against every type of weapon, from clubs and bows and arrows of ancient times to the “buzz” bombs and guided missiles of World War II. There IS a defense against the “A” bomb, they decided.

They see no occasion for unreasoning alarm or aimless thinking. Worst of all is public apathy, the refusal to think at all. For participation of the individual in plans for mutual protection is the key to safety in this new Atomic Age. For we want to emphasize that the home front of the recent past can so easily become the battlefield of the future. The trend of modern war to hit the home bases of the enemy is vastly enhanced by a weapon that is easily carried long distances and is designed to lay waste whole cities in the twinkling of an eye.

WHAT TO DO

How can people organize against this new danger? As we have said before, efforts are being made between nations to control atomic energy, to outlaw it as a weapon of war, and instead to develop and utilize its peacetime uses. But while these efforts continue on a high political level, the nation's leaders consider it advisable to prepare against the eventuality of attack, much as soldiers were issued gas masks in World War II against the hazards of gas attack which did not come. And those who have to do with the nation's safety are hopeful that in the event of another war, the atom bomb will not be used, just as gas was not used—for fear of retaliation. But just as gas masks were thought necessary in World War II, so must we prepare to offset the hazards of the atomic age.

It is a big problem. What shall we do, how much shall we spend? How can the people best be organized for mutual protection? The nation's leaders have been working on the numerous aspects of a problem for which admittedly there is no easy answer.

THE PRESIDENT'S STATEMENT

A comprehensive Civil Defense program, it has been agreed by top-level planners, must reach all the way from the top of government down to the individual, with all playing a part in a mutual aid program. A statement released by President Truman as he signed the Federal Defense Act of 1950 into law last January sets the keynote:

"The Federal Civil Defense act," says President Truman, "is designed to protect life and property in the United States in case of enemy assault. It affords the basic framework for preparations to minimize the effects of an attack on our civilian population, and to deal with the immediate emergency conditions which such an attack would create. . . .

"The act will permit the Federal Government to provide matching grants of funds to the States for constructing air raid shelters. The act also allows certain measures to be taken by the Federal Government directly, such as the procurement and stockpiling of necessary medical and other materials and supplies and the provision of suitable warning systems.

"Each of these fields of action pose complex problems that cannot be solved overnight. We have carefully developed plans to meet these major problems. The master plan for meeting attacks by an aggressor against our cities and their people was published last September (1950). It was the result of several years of study and work on the part of many people, both in and out of government, in this country and abroad.

"The master plan, entitled 'United States Civil Defense,' is now serving as a blueprint for American States and cities in their preparations to safeguard American lives and homes. . . . The Federal Government will provide the necessary coordination and guidance for the Civil Defense program. . . .

"It is the expressed policy and intent of Congress, however, that the responsibility for Civil Defense should be vested primarily in the States and their political subdivisions. I, therefore, call upon all citizens to lend their support to Civil Defense in their communities.

"Much has been done, but much remains to be done. It will require the best efforts of all of us to get ready, and to stay ready, to defend our homes. No true American would want to give less than his best to that cause, and no one who knows the American people could ask for more."

FLORIDA'S PLAN

How have the states risen to the challenge of helping their people prepare a Civil Defense program? Throughout the nation, Civil Defense programs have been started, and many are well along with the basic volunteer organizations needed for mutual protection in time of trouble.

What has been done in Florida? Governor Fuller Warren on November 21, 1949, began the task of organizing a State Civil Defense organization. On April 4, 1950, the State Civil Defense Council was reactivated. As before, the Governor is serving as chairman. Heads of key state agencies which could contribute most to the Civil Defense effort were chosen as members of the State Council. The agencies, and present leaders, include: Raymond E. Barnes, chairman of the Florida Industrial Commission; Alfred A. McKethan, chairman of the State Road Department; H. N. Kirkman, director of the State Department of Public Safety; Dr. Wilson T. Sowder, State Health officer; Thomas C. Bailey, superintendent of Public Instruction, and Nathan Mayo, Commissioner of Agriculture. So that the committee may have permanence, the positions on the Council are filled by incumbents of the office named above.

Assisting in the early planning sessions were Col. R. G. Howie, at that time commanding officer of the U. S. Army's Florida Military District; Major General Mark H. Lance, the Adjutant General of Florida, and Col. Robert G. White, assistant to General Lance.

One of the Defense Council's first big jobs was the selection of a man to serve as director of the Statewide Civil Defense program. They didn't have far to look. Colonel Howie, it appeared to them, had all the necessary qualities and qualifications. As commanding officer of the Florida Military district for several years, he had become acquainted with the state. He had directed the Army's participation in hurricane relief activities. And significant, too, was the fact that he had assisted with drawing up of initial plans for a Statewide Civil Defense program. At the urging of the State Civil Defense Council, Colonel Howie retired from the Army to accept the post of State Civil Defense director, effective July 1, 1950. Temporary headquarters were established at 575 Riverside Avenue, Jacksonville, in offices loaned by the U. S. Army to the newly-created organization.

The State was quickly organized into regions, with regional headquarters in Jacksonville, Tallahassee, Tampa, Orlando and Miami. Under the general supervision of the State director, acting under instructions from State and Federal Civil Defense au-

thorities, work has been pushed in organizing local Civil Defense units for counties, cities and communities.

Efforts are being pushed to organize the **WHOLE** state. While the bigger coastal cities appear most likely to be attacked, interior counties are being reminded constantly that their safety depends upon the safety of the zones liable to assault.

"While we don't want to sound too alarming," Colonel Howie reminds, "we nevertheless feel that at least a possibility of an attack on this state does exist. Florida is a peninsular state, and all through military history peninsulas have figured prominently in invasion campaigns, just as in Korea today. We feel it wise to plan big so that we may be prepared as well as we can be for whatever comes. A strong defense reduces the willingness of a foe to make an attack in the first place."

Objectives of the State Civil Defense program include:

OUR GOAL

1. **Complete the organization of County Councils to include all services.**
2. **Complete inventories of resources and determine critical areas.**
3. **Conduct training of personnel.**
4. **Prepare for test exercises.**

As this is written (February, 1951), plans already have been announced for map test exercises in Jacksonville, Miami, Tampa-St. Petersburg and other large cities. The map exercises are designed to check organizational effectiveness in the key cities. These exercises are scheduled to be followed by "dress rehearsals" featuring civilian participation in the near future.

The key to a successful Civil Defense program, it has been stressed, is the **cooperation of the individual citizen** in the new civil defense organization. He must be prepared to take measures to defend himself, his family and his neighbors, and through his local Civil Defense unit, to extend help to other cities and areas in the state, or even an adjoining state. At the present time, plans are being made to seek mutual assistance agreements with adjoining states. For if a bomb should strike anywhere in Florida, help would have to be forthcoming from a wide range, probably extending into other states.

How can individuals help in the Civil Defense program? Much as they did in the last World War, by volunteering for service with the local Civil Defense unit. The first reply to the call for such volunteers has been encouraging, but more are needed.

What has been learned about how the individual and family groups can be protected against the new hazards of the atomic

age in the few years since Hiroshima and Nagasaki? An official U. S. Government booklet prepared by the Civil Defense Office of the National Security Resources Board appears to offer the most authoritative answers to that question. Titled "Survival Under Atomic Attack," the booklet insists that your chances of living through an atomic bomb raid are better than you may have thought, that you as an individual or head of a family group will not need a Geiger counter or other expensive mechanical or electronic equipment, protective clothing or special training in order to survive.

YOU MUST KNOW

The secrets of survival are to:

1. **Know the bomb's true dangers.**
2. **Know the steps you can take to escape them.**

The possibility that men probing into the secrets of atomic energy might touch off a "chain reaction" which would set off all matter—water, earth or whatnot—is scientifically impossible. Thus the power of the "A" bomb, and the much bigger weapon, the "H" bomb, are known to be definitely limited. Studies made at Hiroshima, for instance, showed that all within the immediate range of the bomb were killed outright by concussion—but slightly over half the people who were at least a mile from the center of the blast are still alive, though some bear marks which will last their lifetime. At Nagasaki, the odds were even better. There, an estimated 70 per cent survived the attack. Houses have been rebuilt on sites where similar structures were smashed into dust. The effects of radiation have been discounted. Thousands of people rendered sterile by radiation effects on the generative organs found such handicaps only temporary. Children again are being born to these people.

What are the odds if you are near an atom bomb target? If you are anywhere near the center of the explosion you have practically no chance to survive. Anywhere within one half mile of the blast's center, your chances are figured at about one out of 10. But this is significant: if you are from one-half to one mile away, you have an even chance to survive. From one to one and a half miles from the center, your survival chances are substantially increased—about 85 out of 100.

From one and a half to two miles away, your chances of survival reach nearly 98 per cent. Beyond two miles of target center, deaths fade away almost to zero. The "H" bomb is expected to extend the circle of damage, but to what extent cannot be determined definitely at this time, but it is believed that the damage area will not be radically increased.

MUCH PROGRESS

Something of importance to everybody is that the United States is fast developing a warning network which is expected to supply some advance notice of an approaching attack. Radar and other electronic devices, search and patrol planes, picket ships and other means are being used in construction of this warning network. Even a few minutes of warning will be helpful, since people in business buildings, industrial structures, apartment buildings and private homes as well as those in the open can take elementary precautions to protect themselves against heat, blast and radiation. For in addition to those killed outright, there will be a substantial percentage of injuries among those in the two-mile circle over target center. More than half of the bodily wounds result from being tossed about by the blast or being struck by falling or flying objects, it has been determined. If you lie down flat, preferably in a ditch or other depression, or even alongside a curbstone if one is handy, you lessen your chances of injury. Avoid areas if possible where window or other types of glass are plentiful. Beware looking up — the bomb's white-hot glare will blind you for several minutes, or may inflict burns.

In all the talk about injuries from atomic attack, there is considerable speculation about radioactivity. But examination shows that radioactivity loosed by the splitting atoms is less dangerous in terms of dead and injured than the effects of blast and heat. The harm that can come from radioactivity will depend upon the power of the rays and particles that strike you, upon the length of time you are exposed to them, and how much of your body is exposed. Generally speaking, the more clothing you have on, the better protection you have, not only from heat, which lasts momentarily, but from most radiation danger. Radiation sickness is not a new thing. You can become a victim of it from being too long exposed to an X-ray machine. The radiation from the X-ray machine and an exploding atom bomb are much the same in effect. Atomic bomb explosions in the air cause most physical damage. But a bomb bursting near the surface of or under water develops a radioactive cloud-mist which can spread radiation over a much wider area than an air burst. You may leave your shelter after an air burst within a few minutes, but a longer period under cover is advised where mist may be seen — for that mist may mark an underwater burst with consequent greater carrying power for radioactivity.

BOMB SHELTERS

There is considerable talk about construction of bomb shelters. This is considered the most controversial part of the Civil Defense

SIX SURVIVAL SECRETS

ALWAYS PUT FIRST THINGS FIRST AND

1. TRY TO GET SHIELDED

If you have time, get down in a basement or other below-the-ground shelter. Should you unexpectedly be caught outdoors, seek shelter alongside a building, or jump into any handy ditch or gutter.

2. DROP FLAT ON GROUND OR FLOOR

To keep from being tossed about and to lessen the chances of being struck by falling and flying objects, flatten out at the base of a wall, or at the bottom of a bank. Remember this: any unexpected brilliant flash of light from the sky will be your signal for quick action. Generally you will have a few seconds to seek protection before the shock wave reaches you.

3. BURY YOUR FACE IN YOUR ARMS

When you drop flat, hide your eyes in the crook of your elbow. That will protect your face from flash burns, prevent temporary blindness and keep flying objects out of your eyes.

FROM ATOMIC ATTACKS

NEVER LOSE YOUR HEAD AND

4. DON'T RUSH OUTSIDE RIGHT AFTER A BOMBING

After an atom bomb burst it is advisable to remain under shelter for a time. Especially beware heavy mist or dust clouds which may be radioactive.

5. DON'T TAKE CHANCES WITH FOOD OR WATER

To prevent radioactive poisoning, select your food and water with care. Food and water in open containers may be contaminated. Stick to canned and bottled foods and drinks if possible.

6. DON'T START RUMORS

In the confusion that follows a bombing, a single rumor might touch off a panic that could cost you your life. Cooperate and work with your local Civil Defense unit for mutual benefit.

Program. The Federal Government has proposed that funds supplied from Federal sources be met by the States on a 50-50 matching basis. States in turn are exploring the possibilities of having cities or communities provide half the state's share for bomb shelter construction. Since there is so much difference of opinion over types of shelter and means of financing them at this time, we think it too early to discuss that feature of the Civil Defense program.

But there are definitely some things that you can do to make your apartment, home, office or industrial building a safer place in which to be in the event of atom bomb attack. You can practice what has been described as "fireproof housekeeping"—that consists of keeping buildings and premises as trash-free as possible, using caution in the storage of inflammable liquids, such as heating oils, paints and other quick-to-catch-fire substances. See that proper cutoffs are provided for gas and electric lighting systems to avoid fire hazards from these sources. Pilot lights on stoves and gas-operated refrigerators can start fires and should be turned off on the first warning. Venetian blinds and heavy drapes can be used to help deflect shattered window glass and reduce the hazard from this source.

Now for a word about lingering radioactivity. Even if you should escape this danger during and immediately following a bombing raid, there is still a good chance that you may become injured by radioactive particles in the air, on the ground, in drinking water, or food supplies. Here is where your local Civil Defense organization can be a big help to you. Local Civil Defense units are organizing what are known as "detection teams" equipped with Geiger counters or other devices to determine the degree of "pollution" in any given area. It may be that you and your family may have to leave your home and find a temporary residence elsewhere until a radioactive area "cools off" sufficiently to let you return. Thus cooperation with Civil Defense authorities can offer you one way of escaping the dangers of an atom bomb raid. Again we repeat: avoid drinking water or food supplies you suspect may be contaminated by radioactivity, for these can carry radioactivity into your body where it can more easily attack vital organs and is much harder to treat than surface burns. There is something else to watch. Shoes will offer some protection against radioactivity. But be careful about wearing contaminated shoes into the house. It is better to adopt the old Japanese custom of leaving your shoes outside the threshold rather than take a chance of tracking in radioactive dust with them.

Never leave the family car parked in the street. It will be better protected in a garage or even a car port. Another sugges-

tion — in the event of an atom bomb raid, if your telephone is still working, be extremely sparing in its use. Keep the lines clear for the more important messages of your local Civil Defense unit. They have the really big job to do.

Here are the really important things to remember:

TAKE HEED

1. Blast and heat are the two greatest dangers you face. The things that you do to protect yourself from these dangers usually will go a long way toward providing protection from the pervasive radioactivity released by atom bomb explosions.

2. While the lingering radio activity that occasionally follows some types of atomic bursts may be dangerous, there are means of protection against it. Some areas "hot" with radioactivity may have to be evacuated. Your Civil Defense unit will advise you. You must know the simple steps to avoid as much of it as you can.

3. Check your immunizations against typhoid and tetanus. Both will be extremely important in time of trouble. Your family doctor is your best adviser on this.

4. Keep calm. Help your Civil Defense unit by doing what you can to protect yourself and your family, and be prepared to offer help to others against the day when you may need help yourself. If you lose your head and expose yourself too soon, or seek to flee, you may touch off a panic that will cost your life and put additional hazards in the way of your volunteer friends and neighbors in your Civil Defense units who will be working to help you.

Fortunately, Florida has thousands of people whose special training will fit them for service with Civil Defense units. Such especially trained people include physicians and surgeons, dentists and nurses, public health workers in the fields of water supply, disease and radiation detection, skilled laboratory workers, blood bank personnel, amateur radio operators and private plane pilots who can carry supplies, help move wounded people, rush key personnel to danger spots. Also included are construction workers and maintenance men who can help restore order, make rubble-littered streets passable again, work with doctor-nurse teams in rescuing people trapped in wreckage. The State Office of Civil Defense describes it nearly in one sentence:

"Civil Defense is EVERYBODY'S Job."

While we acknowledge the contributions that all these people can make in forming a well-rounded, effective Civil Defense unit, we are primarily concerned with the contributions that the medi-

cal and public health services can make in the joint effort to protect the people.

That part of the Civil Defense activity has been made the subject of a special 260-page book issued by the office of the Federal Civil Defense Administration, titled "Health Services and Special Weapons Defense." The book outlines a suggested plan for utilizing the medical and allied professions, together with public health specialists, in providing a successful "home defense" program.

Theirs will be the responsibility to help bury the dead, care for the wounded, determine the degree of radioactive and disease pollution of water, air and food supplies. They will join with the local, state and national American Red Cross chapters in helping to train and utilize first aid workers who will be needed to save the lives of the thousands of wounded and injured.

Some of the responsibilities and problems facing the public health and medical services are outlined in the introduction to the above mentioned book.

The health services, it is pointed out, must be fully coordinated with other Civil Defense services to be most effective. Without adequate fire fighting or rescue service, for example, many lives that could be saved would be lost because first-aid and surgical services could not reach the injured. Without excellent coordination between the health services and the transportation service, sufficient transportation would not be available for movement of personnel, casualties and supplies. Without emergency water and electricity provided by the engineering services, hospitals would be crippled. Without the radiological detection teams provided by the health services, the functions of fire, police, rescue and other services would be hampered.

VOLUNTEERS

The need for an adequate number of trained volunteer personnel is stressed, because of the chronic shortage of trained personnel in the public health and medical field. Nurses aides, qualified first-aid workers, stretcher bearers, for instance, will be needed. People, preferably those with some laboratory experience, must learn how they can be of particular help to the blood banks, for many thousands of transfusions may be needed to save lives. Moreover, in case of bombing, professional personnel would be lost in as great or greater proportion than the lay public. —

Work of detection teams is seen as especially important. These workers, equipped with special instruments, will seek the "hot spots" of atomic radiation. They also will be concerned with

checking devices persons will wear to reveal dangerous radiation. Such devices include a badge containing a small sheet of radiation-sensitive film which will register and help determine the total amount of radiation to which the wearer has been exposed. Dosimeters and pocket chambers perform essentially the same job.

They also will be expected to determine the presence of alpha particles which develop from bomb material not completely consumed in the blast; beta particles which develop from splitting atoms, and gamma rays, created by radiation and fission products. Gamma rays are the most dangerous — they linger longest. Alpha and beta particles soon lose their danger strength.

As for injuries from radiation, methods are being devised to determine the amount of radiation from which the victims have suffered, what treatment for radiation illness should be provided, and the patient's chances for survival.

But let's don't get so deeply absorbed in the atom bomb that we lose sight of another significant part of modern warfare and of the need for protection from such dangers. We refer now to bacteriological, or "germ" warfare, against people, animals and food plants, and chemical warfare, which includes the more recent "nerve" gases. These gases are colorless, odorless and non-irritating and therefore more difficult to detect than other and better-known war gases. Since the newer gases could claim more lives, these weapons are more effective against people and animals than the old chlorine and mustard gases of World War I days. Fortunately, however, we are not helpless against them. Physicians and public health workers are told of the symptoms of bacteriological and chemical warfare and how such cases may obtain effective emergency treatment.

In the case of bacteriological warfare, health agencies are being alerted for early detection of bacteria-induced diseases. Field crews also are expected to be prepared to give mass protection immunization where this is practical, and also to be prepared to assist in destroying such germs wherever located.

Protection of food animals against such induced ailments as hoof and mouth disease, rinderpest, Newcastle disease and others will be primarily a job for the veterinarian and sanitarian services, and in which they have considerable experience.

Attacks on crops by means of bacteriological warfare would be a serious blow to civil production and military field operations. Protective measures must be designed to safeguard the nation's food supplies. Florida's citrus and truck garden acreage would be especially vulnerable to this particular form of internal sabotage.

Some of the symptoms and results of the so-called "nerve gas" attacks are just as frightening as anything the atom bomb can do to you. It leads one to hope that atom bomb warfare, like gas warfare in World War II, will not be used in future conflicts, for fear of retaliation.

THE HARDEST JOB

Grimmest task in the whole Civil Defense picture falls upon the medical and public health sections — disposal of the dead. For despite all the defenses that can be built against atom bomb attack, there will be thousands of lives lost if ever another bomb shall be dropped. However, it can be said that plans are being formulated with the Florida Funeral Directors and Embalmers Association to assist with the task of disposing of the dead, under the supervision of the State Board of Health. Problems faced in this activity include administration of morgues and training of morgue personnel; arrangements for transportation of the dead, and identification procedures. Also release and disposal of bodies, arrangements for religious rites, and maintaining most complete records under the circumstances.

Workers in this division of the Civil Defense task also will be concerned with location of burial places, fabrication of emergency burial containers, careful grave marking and registration, and collection, preservation and storing of personal effects pending final disposition to heirs.

A brighter side of the picture is the success Florida has experienced in organizing blood banks, providing blood and plasma to save the lives of sorely injured or wounded persons. The Florida Association of Blood Banks has been able to contribute to wartime needs and supply peacetime needs in these life-sustaining items.

Among the training programs being arranged for personnel who will be drawn into the Civil Defense organizations is a special weapons course at the University of Florida, Gainesville, set for the latter part of March. There public health workers and others directly interested will receive special instruction in the effects of atomic radiation and measures thus far devised against that type of illness.

While the work of organizing Civil Defense units is being pushed, it might be well to look back upon the wartime days of the British Isles when that civil population was being racked by "buzz" bombs and guided missiles. The British, instead of turning panicky, rose up and fought back. Those who understand the American spirit in time of danger and adversity are confident that we will organize for trouble, and fight back, too.

FIVE KEYS TO HOUSEHOLD SAFETY

1. STRIVE FOR "FIREPROOF HOUSEKEEPING"

Don't let trash pile up, and keep waste paper in covered containers. When an alert sounds, do all you can to eliminate sparks by shutting off the oil burner and covering all open flames.

2. KNOW YOUR OWN HOME

Know which is the safest part of your cellar, learn how to turn off your oil burner and what to do about utilities.

3. HAVE EMERGENCY EQUIPMENT AND SUPPLIES HANDY

Always have a good flashlight, a radio, first-aid equipment and a supply of canned goods in the house.

4. CLOSE ALL WINDOWS AND DOORS AND DRAW THE BLINDS

If you have time when an alert sounds, close the house up tight in order to keep out fire sparks and radioactive dusts and to lessen the chances of being cut by flying glass. Keep the house closed until all danger is past.

5. USE THE TELEPHONE ONLY FOR TRUE EMERGENCIES

Do not use the phone unless absolutely necessary. Leave the lines open for real emergency traffic.

The State Board of Health

1217 Pearl Street or P. O. Box 210
JACKSONVILLE, FLORIDA

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Governor of Florida

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All counties in Florida have organized county health departments except
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THE DANGERS OF IGNORANCE

"Much has been said of the need for public understanding of the New Atomic Age. A citizenry ignorant of the vast opportunities and of the crushing responsibilities created by the release of nuclear forces, is courting annihilation. In the future only the informed nation will be safe. . . . We can say, however, even at this early stage, that our population need not be defenseless. The trained combination of nuclear physicists, engineers and medical men CAN operate to protect our nation if it is ever attacked."

R. W. Bliss

**Major General, U. S. Army
The Surgeon General**

The background of the cover is a black and white photograph of a grand, classical-style building with several tall, fluted columns supporting a pediment. The words "STATE BOARD OF HEALTH" are inscribed on the front of the pediment. The sky above the building is cloudy.

Florida

HEALTH NOTES

STATE BOARD OF HEALTH

APRIL
1951

UNWELCOME GUESTS

Vol. 43
No. 4

UNWELCOME GUESTS

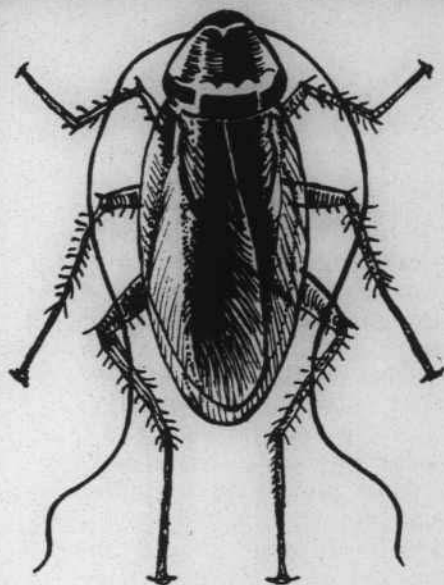
YES, WE KNOW

Homes of Floridians are frequently visited by unwelcome guests—we hasten to add—of the four, six and eight-legged variety. This is one of the costs we have to pay for having a wonderful climate and attractions seldom found elsewhere. But in recent years, Florida has achieved momentous success in combatting household pests and insects of medical importance. This has been accomplished largely through new and potent insecticides, revolutionary equipment for dispensing chemicals, improved training facilities and education, and a greater knowledge of our insect enemies—together with a more alert, better informed and qualified commercial pest control industry, whose members are licensed by and work under regulations of the State Board of Health. **Insect borne diseases** are virtually a thing of the past in the State and for all practical purposes require little more than an alert surveillance to prevent a resurgence of the once-dreaded diseases, such as yellow fever, dengue fever, malaria, typhus fever, and bubonic plague, that formerly exacted so great a toll of lives in Florida.

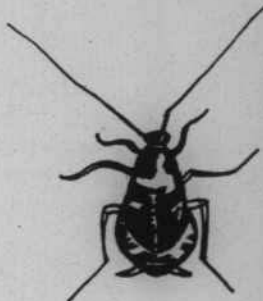
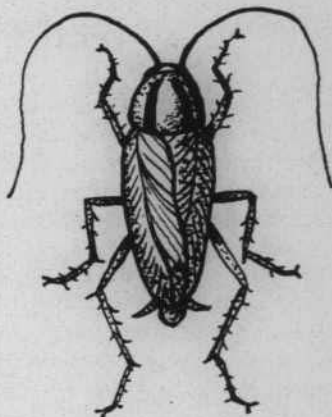
But we still have the annoying pests. The following pages will help you identify them and give you information on how to get rid of them.

FLORIDA HEALTH NOTES

Published monthly except July and August on the 5th of the month by the Florida State Board of Health. Publication office, Jacksonville, Fla., headquarters of the State Board of Health. Entered as second class matter, Oct. 27, 1921, at post office, Jacksonville, Fla., Act of Aug. 24, 1912. It is intended primarily for individuals and institutions with an interest in the state health program, public and private. Permission is given to quote any story. Clippings of quotations or excerpts would be appreciated.



Adult American, German and Brown-Banded Cockroach (L to R)



COCKROACHES

Perhaps the most common of Florida's household pests are roaches, of which there are several different kinds usually found in homes. These obnoxious creatures are associated with filth, give off a disagreeable odor and contaminate food. In addition to eating and contaminating food, they also damage food containers, bookbindings and paper products and are suspected to be mechanical transmitters (carry germs on their bodies) of certain diseases.

Cockroaches shun bright sunlight, seeking concealment during the day in cracks and crevices. They enter the home principally with food supplies or may find their way in accidentally.

One of the most important factors in roach control is good housekeeping practices. If roaches are present in your home, then you are providing them with food and shelter. The use of insecticides is an aid to sanitary practices but should not be a substitute. Dusts or sprays may be used, depending on choice. The important factor is to achieve thorough coverage of all breeding and hiding places such as in or around baseboards and moulding, sinks, toilets, lockers, shelving, spaces between walls, stoves and food storage units. Cellars and the area beneath buildings should be treated when possible.

Pyrethrum combined with **piperonyl butoxide** as a spray or with **piperonyl cyclonene** as a dust may be used for quick kill upon contact. Residual application of 2% **chlordan** spray applied to roach harborages appears to be among the most effective materials for roach control. Residual applications of **DDT** may be used though it is generally less effective than chlordan. **Roach pastes** also may be used but they contain ingredients toxic to humans and should be used with caution when children or pets are present.

FLIES

Houseflies are annoying pests and also potential disease carriers. The adults feed on human and household wastes and human foodstuffs. The immature forms (maggots) are likely to be found in any moist, warm organic matter such as animal manure, garbage and kitchen wastes, spilled feed and even lawn clippings.

Because flies have proven capable of developing resistance to DDT and related insecticides, the present approach to housefly control is primarily through sanitation. Adequate garbage storage, collection and disposal is essential for fly control in cities. Garbage should be wrapped in paper and placed in suitable **covered** cans. Garbage cans should be frequently washed to remove accumulations of breeding material. Garbage should be collected at least twice weekly and disposed of by incineration (burning) or sanitary land fill. The use of open dumps should not be permitted. In any area, manure should be removed daily or at least twice weekly and scattered thinly over the ground for drying, as dry material is unattractive to flies. Good screening remains one of our best means of preventing annoyance and disease transmission by flies in the home.

A combination of good sanitation and the proper use of certain insecticides should afford a high degree of fly control. Space sprays containing **pyrethrum** or **allethrin**, are highly effective as a temporary control but may require frequent retreatments.

In unscreened homes residual applications of **DDT** or **methoxchlor** to surfaces on which flies rest are helpful.

For residual applications to surfaces outside but near the house, **chlordan**, **lindane**, **methoxychlor** and **DDT** may be used. Regardless of the insecticide used, residual applications should be made to those surfaces where a reasonably large proportion of the fly population is likely to rest and when possible to surfaces that are protected to some extent from the weather.

Sprays containing **chlordan**, **dieldrin** and **benzene hexachloride** are effective in **controlling** maggots provided the infested medium is thoroughly saturated.

THE DOGFLY or **STABLE FLY** is similar to the housefly in appearance but has sharp, piercing mouth parts and is a severe "biter" of man and animals. It is suspected of being able to spread certain animal and human diseases. It will breed in hay or straw mixed with manure, peanut and celery litter and other plant

refuse. In the northwest coastal area it breeds extensively in fermenting seaweed which has been washed ashore. Control measures are best when applied to this breeding material. Space sprays containing **pyrethrum** are effective in the home.

SANDFLIES are small biting midges causing unusual annoyance, particularly in coastal areas. They are not known to transmit disease. Breeding occurs principally in the mud of marshes and ditches. They are attracted by light and because of their small size readily penetrate standard-size screening. Space sprays containing **pyrethrum** afford temporary relief in the home. Oil solutions of **DDT** or **chlordan** applied to screens are helpful in preventing them from getting inside. Recent research indicates possible effective use of **dieldrin**, **chlordan** and related materials when they are applied directly to breeding areas.

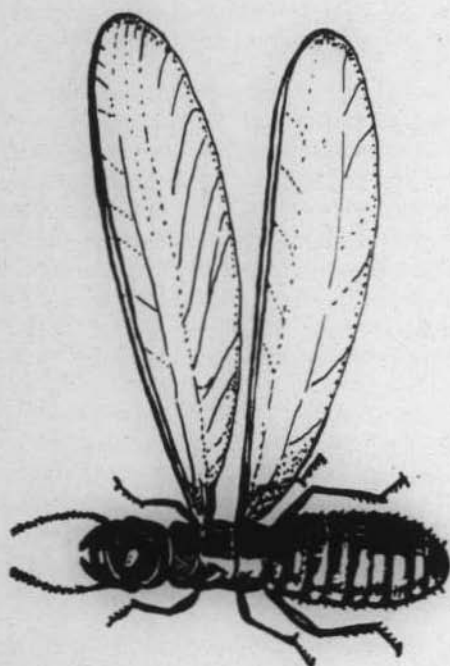
ANTS

Ants are among the most annoying pests occurring in the home and are often difficult to control. Their principal damage is the contamination of human food attractive to them.

Ants, like termites, swarm at times during the year and the two are frequently confused. Ants have a wasp-like or constricted waist; the termite does not have this constriction. Also, the wings of the termite are equal in size and are about twice as long as the body whereas in the case of the winged ant, the two pairs of wings are of unequal size and compared to body length are not as long as those of the termite.

One of the basic principles of ant control in the home is scrupulous cleanliness. Not only are ants attracted by food — in containers, on the table, everywhere, — but crumbs or small particles, not easily detected, lure them on.

Control may be effected either through the use of insecticides applied in or around the nest or by the use of poison baits. For the former, **chlordan** has generally proven satisfactory. Outside of the home, **cyanide dust**, **carbon bisulphide** and even **boiling water** may be applied in the nest opening, followed by tamping of the nest. Poison baits may contain **sodium arsenite**, **tartar emetic** or other toxicants in honey or similar baits. Several poisons may be tried until one is found acceptable to the ants. Care must be exercised in placing ant poison which may be poisonous to humans and animals. Insecticidal treatment of any runs and infested areas of the home usually afford only temporary relief.



Winged Ant and Winged Termite (L to R)

TERMITES

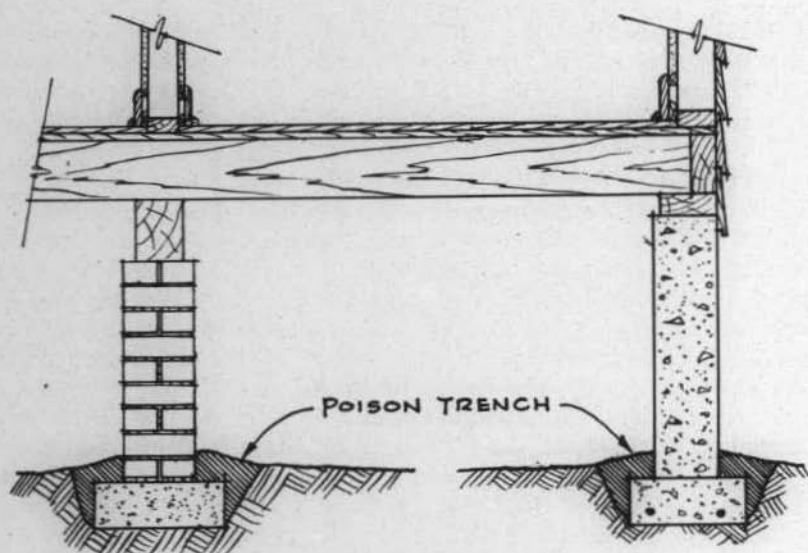
Generally speaking, the two most important types of termites which cause damage to homes in Florida are SUBTERRANEAN TERMITES and DRYWOOD TERMITES. Of the two types, subterranean termites cause more damage in most sections of the State.

SUBTERRANEAN TERMITES make their nests in the soil where they obtain moisture necessary for life. Tunnels are made through the soil from the nest through which they roam in search of food. These pests feed on anything containing cellulose, such as paper, pasteboard, fiberboard, and wood. They like to feed on moist scrap wood lying around on the ground, and it is under such scraps where they are most often seen by the layman. Most people know them by the name of "white ants" or "woodlice." If scrap wood is lying around under the house, termites will be attracted to the area, and if some of their tunnels reach the house foundation they may continue to build their mud-like tunnels up the face of the foundation or up through cracks in it and start eating the wood. They travel back and forth through these tunnels to the nest, and if they are cut off by some means from getting back to the moist soil, they will eventually die out up in the dry timbers in the house. If there are moist areas in the structure caused by leaking pipes, ice boxes, or a leaky roof, these termites may live on in the timbers using moisture from such wet areas. Thus, if subterranean termites are in your house: deprive them of any source of moisture and block them from getting back to the soil by means of mechanical or chemical barriers.

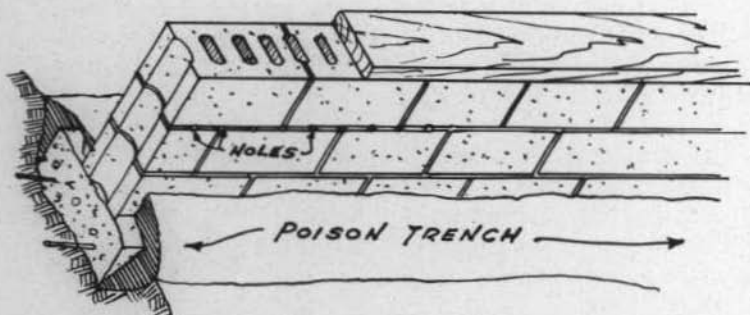
A very good publication pertaining to proper construction of buildings to prevent subterranean termite attack is United States Department of Agriculture Farmer's Bulletin No. 1911. It may be obtained for 10 cents from the Superintendent of Documents, U. S. Government Printing Office, Washington 25, D. C. For those who supervise the construction of their own homes, this bulletin is highly recommended, since it is easier to properly build than it is to treat for termites later and repair their damage.

Here are some of the ways you can tell if subterranean termites are in your house:

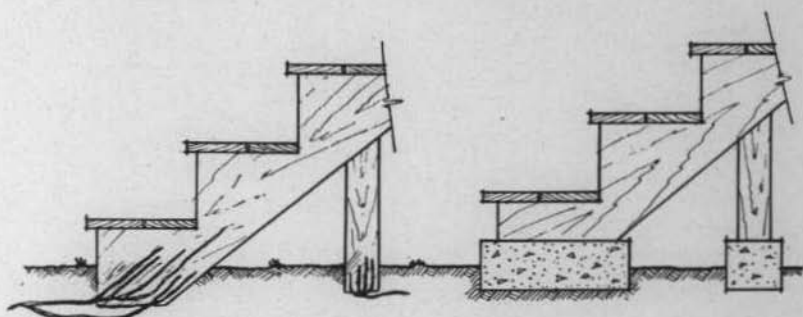
1. Watch for the swarming winged termites during late winter and throughout the spring. Some of the termites in a nest develop wings, and these are the ones who leave the colony to mate and start new nests elsewhere. These swarmers should not be confused with flying ants. The difference between flying ants and flying termites is explained in the ant control section.



Typical foundation pier and foundation wall showing treatment of the soil to control subterranean termites.

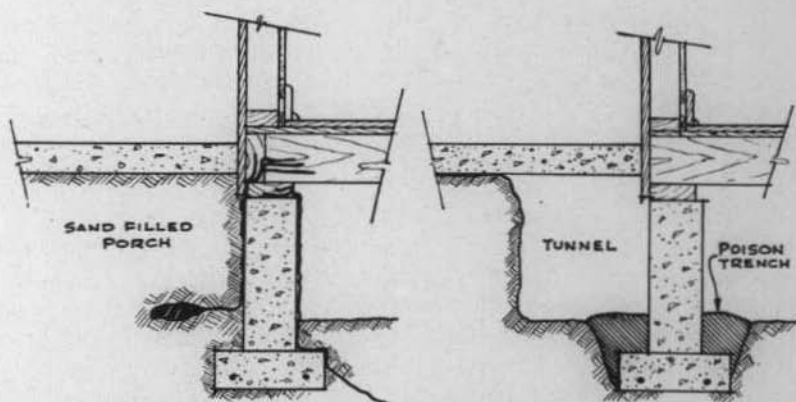


Typical hollow concrete block foundation wall showing holes drilled into the open cells, through which soil treating chemical should be flooded, and also showing soil treatment for subterranean termite control.



Typical wood steps and support in contact with the soil and infested with subterranean termites

The same steps and support after proper structural corrections are made.



Typical sand-filled porch infested with subterranean termites

The same porch after an open tunnel is dug and after the soil around the foundation wall has been treated

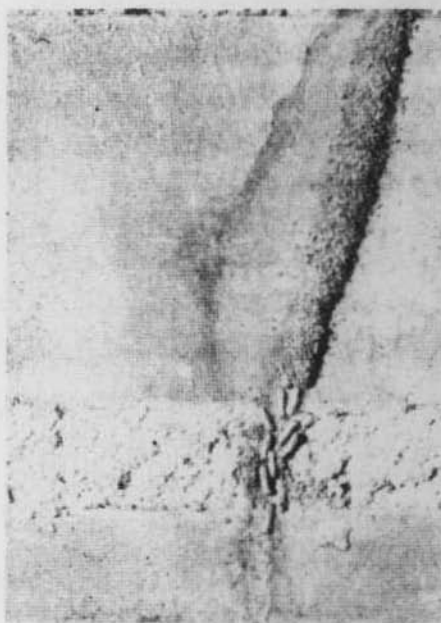
2. Crawl underneath the house and look for mud-like tunnels, some larger or smaller than a lead pencil, extending up from the soil on the surfaces of foundation walls and pillars. Look also around the outside of the foundation wall.
3. Probe into foundation sills and floor joists with a screw driver or similar tool to determine if there are any hollow spots caused by the eating termites.
4. If termites are found in the wood portion of your house and if the tunnels eaten in the wood are lined with a mud-like substance specked with grey spots, they are almost sure to be subterranean termites.

Here are some things you can do to help prevent termites from entering your home and to help get rid of them if they are present:

1. You should first carefully rake all wood scraps and other trash from under the house. Dig out all stumps under and close to the house, and remove all wood forms and stakes left around poured concrete.
2. You should then look for any wooden portions of the house that may be touching the ground. All wooden supports, door frames, step runners, etc., should be sawed off at least six inches above the ground and placed on blocks of solid or poured concrete. If any of these wooden members are found to be infested, the soil near that spot should be thoroughly treated with a chemical which will be described later. If it should be absolutely impossible to break contact of any of these wooden structures with the soil, then the bases of such structures should be thoroughly saturated with the same chemical.
3. If your house is damp underneath, there is probably not enough drainage away from the foundation, or there is not enough ventilation to enable the soil to dry out. Remember that such excessive moisture conditions are attractive to termites. If your house is dry underneath, drainage and ventilation is probably sufficient. Be sure to check for leaky plumbing, and any other causes of moisture in any part of the house.
4. A trench about eight inches wide and at least ten inches deep should be dug on both sides and against all foundation walls and piers. Soil treating chemical should be poured in the trench and thoroughly mixed with the soil as it is being replaced.



Houses built on concrete foundations are NOT necessarily safe from termite infestation as the above photograph shows. Subterranean termites can build mud-like tunnels from their nest in the soil up the face of a foundation wall, through which they travel to wood timbers above. Below, a close look at a tunnel broken open to show the termites traveling back and forth from the ground to the timbers.



Plants may be protected to some degree from chemical damage by lining the side of the outside trench next to the plants with tar paper. Leave the paper in the trench when the soil is replaced.

5. Termites may come up unseen through voids in concrete blocks and through cracks in brick or stone foundations. Holes should be drilled in such foundations and chemical flooded into all such voids and cracks.
6. If you have a sand-filled porch covered with a concrete slab joined closely to the wood portion of your house, this is a likely place for subterranean termites to enter. To properly treat such an area, dig a tunnel through the porch next to the foundation wall of the house and beneath the concrete slab, so that you may possibly crawl through to look for termite tunnels and to give the soil the proper chemical treatment. The underside of the slab above the tunnel should be swept clean and sprayed with chemical. Treat the foundation with chemical as described in (4) above.
7. Any lumber or foundation timbers which have been seriously weakened by termite damage should be replaced with lumber which has been pressure treated. Your local lumber yard can tell you about treated lumber.
8. Be thorough in inspecting so that all possible points where termites may enter can be properly treated. Make periodic reinspections after treatment.

Some chemicals which may be used as soil poisons in subterranean termite control are listed below. They should be easily obtained through local concerns where insecticides are sold:

1. **PENTACHLOROPHENOL** is used in a 5% solution in No. 2 fuel oil.
2. **DDT** (5% solution). This 100% material (technical grade) may be mixed at the rate of 4 pounds to 10 gallons of No. 2 fuel oil.
3. **COAL TAR CREOSOTE** is a cheap material, but its strong offensive odor is a disadvantage. Mix 1 gallon to 2 gallons of No. 2 fuel oil.
4. **CHLORDAN** is relatively safe for use close around plants. It is probably too expensive to use in the over-all treatment of a house, but where plant damage is a factor, it may be used to good advantage. Use in a 1% **water emulsion**.
5. **ORTHODICHLOROBENZENE** is widely used as a soil poison and is mixed 1 gallon to 3 gallons of No. 2 fuel oil.

All the above materials should be applied to the trench as a soil poison at the rate of 2 gallons to each five feet of trench.



DDT Dusting for Control of Rat Fleas in Typhus Program.

CAUTION: Handle these materials with care since most of them are irritating to the skin. Have plenty of fresh air or ventilation when applying them and try to avoid excessive splashing. It is a good practice to follow the precautions listed on the labels of any such materials as these.

DRYWOOD TERMITES differ in many ways from subterranean termites. They do not nest in the soil but nest in wood above the soil. Drywood termites are not so damaging as subterranean termites because there are usually fewer in each nest. If they are allowed to continue to eat on for a number of years, however, they may cause considerable damage even to furniture. If you have seen little hard, tiny pellets on your floors around the walls, you may have drywood termites. These pellets are bits of excrement which are pushed out of the nest, and usually a probing search of the area just above such a pile with an ice pick will reveal a nest of these termites in the wood. There may be many such nests of drywood termites in an infested house; therefore, successful control of these pests depends upon whether all the nests are found. When found, the nests may be destroyed by forcing a small amount of liquid insecticide through an ice pick hole made into the nest. This may be done with a sharp pointed syringe. Any household spray, especially one containing chlordan, should be effective.

Many termite control jobs will be too complicated for the average home-owner to perform. In such cases, it is suggested that a licensed pest control firm be employed. It is always a good practice to get at least two such firms to bid on your job so that you may get more than one opinion. Do not deal with any pest control operator who cannot show a State Board of Health identification card, since possession of such cards, by qualified operators, is required by law.

FLEAS

Fleas are small, wingless, bloodsucking insects whose bodies are flattened from side to side, permitting easy movement among the hairs on the "host's" body. They usually attack animals but have no aversion to feeding on man. In addition to causing discomfort and annoyance, certain of the fleas found on rats may transmit such diseases as bubonic plague and endemic typhus fever. The adult flea must feed on blood in order to reproduce, but adults may live for one to two years without feeding. Thus, abandoned buildings may be literally alive with fleas. Where pets are concerned, the fleas will live and breed most heavily where these animals are accustomed to rest.

INSECTICIDES

Most chemicals used in controlling insects are poisonous to man and precautions must be taken to avoid contamination of food, eating and cooking utensils and in many cases inhalation of the insecticide used.

Space sprays are those applied into the air for quick knock-down upon contact and usually afford immediate results but generally have little lasting effect. **Residual sprays** are those which will largely adhere to the surface applied and should remain effective for a considerable period of time. Equipment for applying space sprays include the plunger-type hand sprayer, aerosol bombs and numerous kinds and sizes of electrically or mechanically operated sprayers.

Insecticides recommended as space sprays include **pyrethrum**, **allethrin** (a synthetic material having properties similar to pyrethrum) and **methoxychlor**, preferably with an activator such as **piperonyl butoxide** or **N-propyl isome**. **Chlordan**, **DDT** and **lindane** are recommended as residual sprays and not as space sprays. Moreover, the use of chlordane **inside** homes should be restricted to spot treatments as extensive use of this material inside occupied homes, particularly in sleeping rooms, appears undesirable because toxic vapors which may be dangerous to man are given off for comparatively long periods after application. Pyrethrum is one of the safest insecticides though more expensive.

Dusts or powders, containing the above chemicals, are comparable in effectiveness under most conditions.

Dusts or sprays, containing **DDT**, **pyrethrum** or **rotenone** are effective when applied to suspected breeding and hiding places. Bedding and resting places of pets should not be overlooked. For areas around the home where grass or other vegetation may be injured, oil solutions should not be used. The rat flea, spreader of endemic typhus fever in Florida, can be controlled by dusting rat runs, burrows and other areas frequented by domestic rats, with 10% **DDT** powder, rat-proofing of buildings and the destruction of rats.

MOSQUITOES

Undoubtedly mosquitoes are responsible for more loss of sleep than any other single cause. Fortunately only a small percentage of the nearly seventy different kinds of mosquitoes present in Florida commonly enter homes. Among these, however, are the carriers of malaria, yellow fever and dengue. Of course, they must be infected with the disease, otherwise they constitute only a nuisance value.

Adequate screening and mosquito proofing will largely prevent entrance of mosquitoes into homes. Both these measures are generally recognized as necessary to comfortable and healthful living in most sections of the State. In spite of these measures, however, some mosquitoes are apt to enter homes. Either space sprays of **pyrethrum** or residual applications of **DDT** to walls and ceilings may be used for their control.

In those parts of Florida whose past history showed a high incidence of malaria, a program has been conducted involving the spraying with **DDT** of walls, ceilings, porches and privies, principally in unscreened or poorly screened homes. The effectiveness of these treatments was based on **DDT's** ability to keep houses free of the malaria mosquito. This approach to malaria prevention and control has proved highly successful. These **DDT** treatments have at the same time helped greatly to control other house-frequenting insects.

Bed nets and repellents are also helpful in preventing mosquito bites.



Upper photograph shows interior DDT residual spraying, which has been highly effective in controlling malaria. Bottom view shows space spraying treatments, applying household insecticide with hand sprayer for control of mosquitoes, flies and other flying insects.

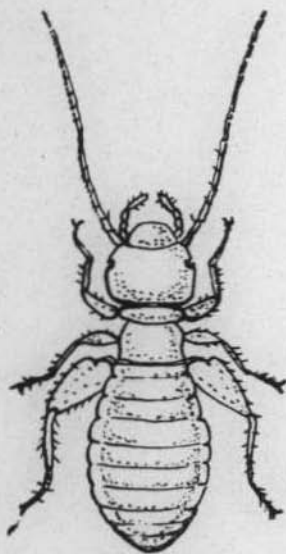


BOOKLICE

Booklice (psocids) are tiny grayish-white insects that may occur in great numbers in homes. They may be mistaken for body lice but they are not. Booklice do no damage to the home nor do they bite or transmit disease. They prefer damp, warm surroundings and are believed to feed on microscopic molds which are abundant in most homes.

Elimination of these pests from the home may be difficult. Sprays containing **pyrethrum** with an activator will kill booklice upon contact. Heating of homes to 125° should destroy the pests. Also, one pound of flaked **naphthalene** or **paradichlorobenzene** (PDB) per 100 cubic feet of space will kill booklice in closets, trunks and similar spots.

The reason that booklice are included in this discussion is because of the numerous inquiries received by the Florida State Board of Health concerning them. Though they do no damage, their appearance in a home usually distresses the householder.

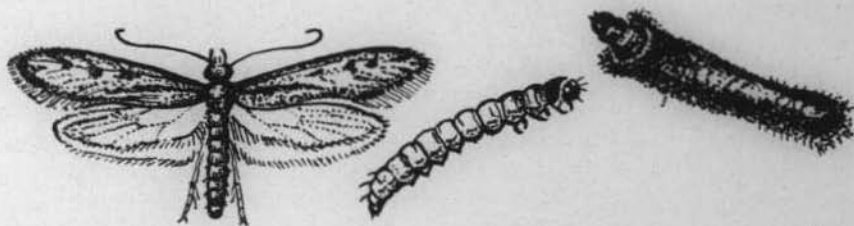


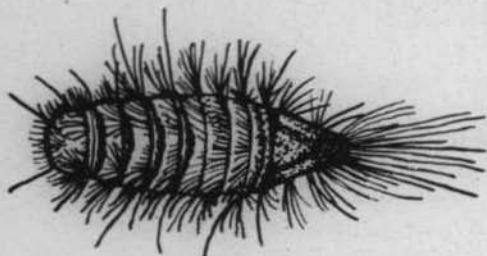
FABRIC INSECTS

MOTHS — There are two important species of clothes moths, both of which may breed continuously throughout the year. The larvae or worm form of both the **webbing clothes moth** and the **casebearing clothes moth** will damage wool, hair, feathers and bristles. The larvae will also feed on loose wool lint and similar debris which accumulate in cracks or crevices. When full grown, they are white with dark heads and about half an inch long. They are not known to feed on cotton, linen, rayon or silk. The adult moths are not attracted to lights as commonly believed but prefer darkness and seclusion.

They may be controlled by: (1) prevention (2) eradication. Prevention largely consists of frequent and thorough vacuuming of rugs, upholstery, etc., and cleaning, brushing and sunning of clothing and other fabrics, giving particular attention to seams, folds, pockets and other places where eggs and larvae might be present. Tight closets, trunks and chests may be mothproofed by application of **flaked naphthalene** or **paradichlorobenzene** at the rate of 1 pound per 100 cubic feet of space. Paper bags and similar devices for storing clothing are effective provided they are thoroughly sealed and the clothing is free of all forms of moths at the time placed therein.

Numerous commercial mothproofing materials are available but most vary according to the frequency of laundering the fabric. Cold storage provides excellent protection. **Pyrethrum** sprays are effective provided they contact the adult or worm form. Residual applications of **DDT** spray are also effective when properly used.





Larva, Common Carpet Beetle

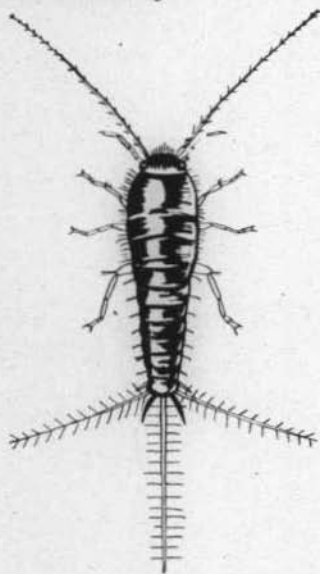


Larva, Black Carpet Beetle

CARPET BEETLES — will damage wool, fur, silk and leather and are often difficult to control. Damage is caused by the immature or larval stage, which vary in appearance according to the species. The adult beetles are not injurious but should be destroyed when possible. Larvae may subsist on lint and debris in floor cracks, behind baseboards, and similar places. They are also frequently found in upholstered furniture, clothing, stored fabrics and beneath rugs and carpets, especially when the latter are tacked down or extended to the walls.

Preventive measures are similar to those for clothes moths. Residual spot treatments with **chlordan** and **DDT** spray are effective but more than one application may be necessary.

SILVERFISH: may readily be recognized by the presence of three tail-like appendages at the hind end of the body. They damage books, wallpaper, and fabrics made of linen, rayon or other materials if starched. They are seldom seen except when disturbed and then quickly scurry out of sight. Sprays or dusts containing **pyrethrum** or **DDT** will effect control of these insects.



BROWN DOG TICK

Of the ticks found in Florida, the brown dog tick is the most troublesome as a household pest. Since it seldom attacks animals other than dogs, it is most likely to be found where dogs are present in or around the house. It is essentially a domestic species and does not occur in the woods or open country as many other ticks do. This tick does not ordinarily attack humans and is not known to transmit disease to humans in Florida.

When infested dogs enter homes, the ticks may drop off and hide in protected places. Subsequent breeding may heavily infest the home. An uninfested dog may acquire these ticks from an infested dog, kennel or animal hospital.

Residual spot treatments with **chlordan**, **lindane** and **DDT** are effective but are more so when applied directly to the ticks. Small quantities of **DDT** or **chlordan** dusts may be applied direct to the infested parts of dogs but **derris** or **cube powder containing at least 3% rotenone** would be safer in the event the animal licked itself excessively. Oil solutions should **not** be applied to dogs. The above treatment is also recommended for the place where the dog sleeps.

OTHER PESTS

LICE are wingless insects readily transferred from one individual to another by contact of infested hairs, garments, bedding, body contact and other means. Infected body and head lice may transmit such diseases as epidemic typhus but the pubic or crab louse is not known to transmit disease. Ten Percent **DDT** powder has proven to be highly effective in controlling all human lice. Oil solutions should not be used on human or animal bodies.

BEDBUGS are annoying blood suckers and have long been suspected of transmitting several diseases of man but this has not been proved. The bedbug may be spread by movement of infested bedding, furniture, baggage, clothing, and by other means. Residual applications of **DDT** have proven highly effective in controlling bedbugs. The insecticide should be applied to hiding places such as seams and tufts of mattresses, cracks and crevices of bed springs, bedsteads, baseboards, floors and walls.

CHIGGERS OR REDBUGS do not infest homes but are so common and annoying to most people that their inclusion is considered justified. Persons who visit wooded areas, particularly during the spring and summer months, are likely to become infested. Individuals vary in their susceptibility and reaction to these pests. Chiggers are almost microscopic in size and are the immature stage of the harvest mite. They attach themselves to the skin by means of hooked mouthparts in manner similar to ticks but do not burrow into the flesh. This attachment results in almost intolerable itching. They are not known to transmit disease in Florida.

Clearing and removing of underbrush and weeds together with chemical treatment of the ground with **chlordan**, **benzene hexachloride** or **toxaphene** are effective in area control of chiggers. Insect repellents, when properly applied, will afford personal protection.

Powdered sulphur dusted on the legs is also helpful in preventing chigger annoyance. Persons exposed to chiggers should bathe as promptly as possible, lathering the body freely with soap, using a coarse rag.

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All counties in Florida have organized county health departments except
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The control of insects is especially important during these critical times of national emergency when the conservation of health, building materials, chemicals, food-stuffs and clothing is of the greatest necessity to the individual and the nation.



Florida

HEALTH NOTES

MAY
1951

RATS — COMMON ENEMY

Vol. 43
No. 5

RATS—COMMON ENEMY



Meet Mister Rat: No bigger than your hand but an expensive animal to feed and a bearer of disease.

WHY HAVE RATS?

Why do you allow these filthy criminals — **RATS** — in your home and business establishments? These stealthy marauders of the night steal, plunder, destroy and may give you diseases that make you ill or even cause death!

Should a human thief enter your home you would immediately call the law. But you allow this rodent thief to prowl your home unmolested. Furthermore, you often give him free board and room!

There are ways that you, and other citizens of Florida can eradicate these vandals from the State. They are a health hazard and an economic liability. Tried and proven methods of control can eradicate domestic rats from our land. The following pages will give you some of the information that you need to carry out this task.

WHAT DOES A RAT COST?

It is estimated the rat population equals the human population and that there are 150,000,000 rats in the United States. Since each rat eats about \$2.00 worth of food each year (this was before inflated prices!) around \$300,000,000 a year is required to feed all the rats. In addition, a rat destroys ten times more than it eats and on this basis, the annual rat bill is \$20.00 for each person or a loss of around three billion dollars a year for boarding these filthy creatures. To maintain and pay for damages done by this horde of rodents requires the output of at least 1,000,000 people each making a salary of \$3,000.00 annually. It can be seen that the annual loss from rodents, not even considering the disease angle, amounts to an astronomical figure.

If all the foodstuffs contaminated by rodents and made unfit for human food in the United States each year were saved we could go far toward feeding the starving peoples of the world. There would be plenty of food for all. No one can gainsay the fact that it would be much more humane to give these foodstuffs to hungry humans than to feed a large number of rats.

FLORIDA HEALTH NOTES

Published monthly except July and August on the 5th of the month by the Florida State Board of Health. Publication office, Jacksonville, Fla., headquarters of the State Board of Health. Entered as second class matter, Oct. 27, 1921, at post office, Jacksonville, Fla., Act of Aug. 24, 1912. It is intended primarily for individuals and institutions with an interest in the state health program, public and private. Permission is given to quote any story. Clippings of quotations or excerpts would be appreciated.

SICKNESS COSTS, TOO

Rodents could very well be classed as the greatest enemy of mankind as far as being a carrier of human diseases is concerned. Some of these diseases are:

Bubonic Plague
Endemic or Murine Typhus
Rat-Bite Fever
Dysentery
Trichinosis

Leptospiral Jaundice
Tape Worm Infections
Rickettsialpox
Lymphocytic Choriomeningitis
Haverhill Fever

TYPHUS FEVER

Probably the disease that more Floridians are familiar with is **typhus fever**, called endemic or murine typhus. It is also known as Brill's disease. It differs from the European type (epidemic typhus) in that it is much milder. Our type of typhus fever is primarily a disease of rats but unfortunately is not very fatal to them.

This disease has no relationship to typhoid fever, but is a major disease in its own right. Not only is the disease extremely unpleasant and even dangerous when it is "running its course," or in the acute stage, but it leaves its victims extremely weak and debilitated. Convalescence may take many months. Think of the cost to the individual, family, community or state when a wage-earner is incapacitated for many months from a preventable disease.

Endemic Typhus Fever is the most important rodent-borne disease in the United States. In 1945 there were 5,179 cases reported. In Florida in 1944, 483 cases were reported. This was the greatest number of cases ever to be reported in one year since the first reported case in the State in 1918.

In 1946 the Rockefeller Foundation conducted a typhus survey in the State. Their findings indicated that only about one-third of the cases were officially reported. So in 1944 instead of 483 cases, it appears that a more accurate figure would be 1,449 cases of Endemic Typhus occurred in Florida. This survey also showed that 52 per cent of the typhus cases were actually contracted in the home. Therefore, it can be seen that it is imperative that you eliminate rodents from your home if you expect to escape this debilitating disease.

There is a definite downward trend in typhus cases in the State. This reduction in cases has been accelerated by DDT dusting in homes and business establishments in those counties where the greatest number of typhus cases have been reported.



One the outside looking in: Rats can gnaw through ordinary screen wire, but this tough hardware wire cloth is too much for even a rat's sharp teeth.

The table below shows the decline in reported cases of Endemic Typhus Fever in Florida since 1944:

1944	483
1945	370
1946	397
1947	340
1948	166
1949	123
1950	34

Endemic typhus fever is caused by an organism called **Rickettsia typhi**. It is contracted from the rat by rat fleas that bite man. The flea in the process of biting exudes fecal matter containing the **Rickettsia** which is rubbed into the opening made by the bite inoculating the individual.

BUBONIC PLAGUE

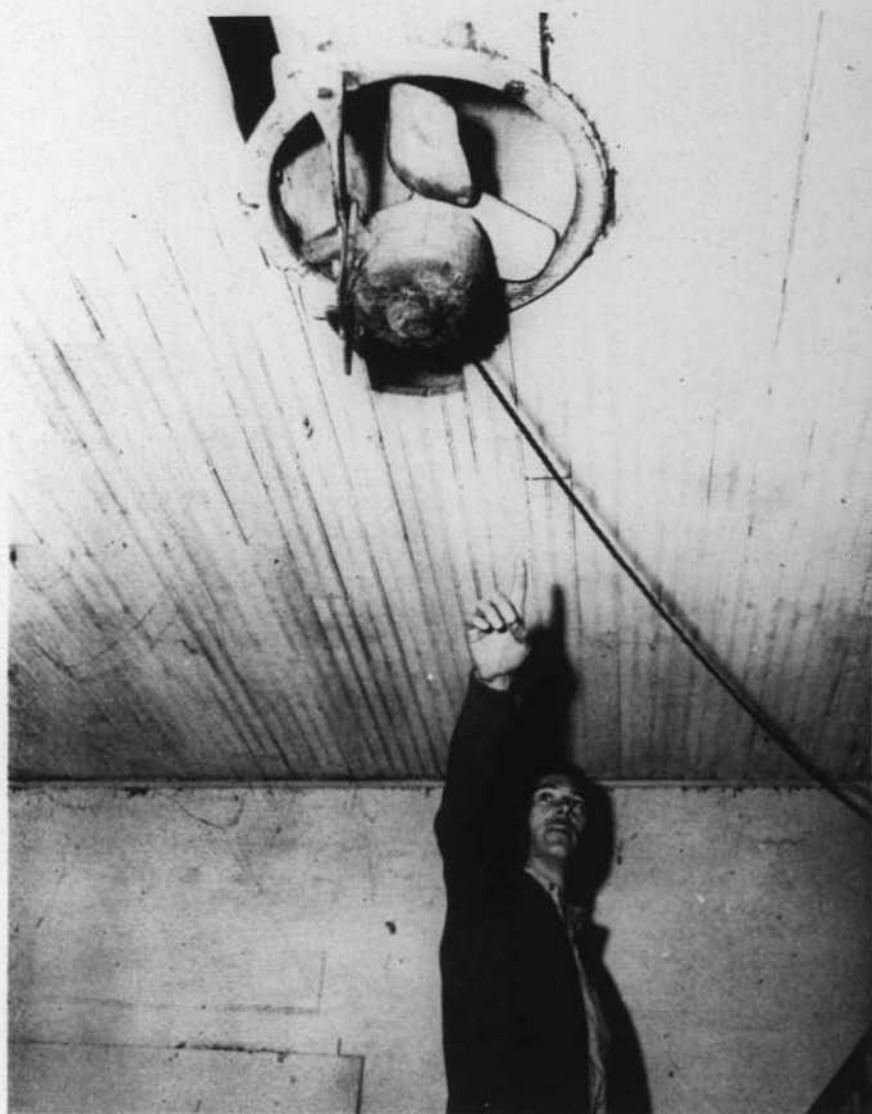
This is one of the oldest known diseases of man. Probably the earliest known reference to plague can be found in the First Book of Samuel, Chapters V and VI, where the disease is reported to have broken out in Canaan during military operations against the Israelites centuries before the Christian era. The disease was one of the great killers of historic times, having killed at one time one-half the populations of the Roman Empire.

In the Fourteenth Century, the disease in Europe became known as the "Black Death." It was reported to have killed one-fourth of the population or 25,000,000 people. In some European countries, 70 per cent of the population was reported to have been wiped out.

The New World had its first case of plague reported in April, 1899, at Asuncion, Paraguay. During March of 1900 the first cases of plague were recognized in San Francisco. Since plague invaded the New World, about 60,000 cases have been reported. In the United States 520 cases and 338 deaths have been reported. The reason for the low number of reported cases in the United States as compared to the number of cases in South America is probably due to the quarantine regulations and control procedures set up by the health authorities of this country.

It was not until 1920 that Pensacola was invaded by the disease. During the only epidemic to ever be reported in the State, a total of 10 people contracted the disease with 6 deaths reported.

Today plague is still prevalent in wild rodents in fifteen of the Western states. This disease is caused by an organism called **Pasteurella pestis**. It is contracted (a) directly from an infected rat or from an infected rat flea; (b) from wild rodents or from their fleas; and (c) from person-to-person by way of sputum droplets. This method of transmission is called "pneumonic." When contracted in this manner, the mortality rate in humans is 100 per cent unless treatment is administered. Until the development of the sulfa drugs and the anti-biotics there was no treatment for either type of plague.



How do rats get into a building? This open ceiling fan provides one of the answers. The rat control expert pointing to the fan actually saw a rat come through the fan and walk the wire leading from it.

WHAT DO WE HAVE IN FLORIDA?

The two species of domestic rats with which we are concerned are the **Climbing or Roof Rats**, and the **Burrowing Rats**. We think you should know the scientific names of these rodents as well as having a brief description of each kind so that you would be able to identify them if you desired to do so.

There are three sub-species (kinds) of **Climbing or Roof Rats**. All of them eat mostly vegetables, cereals, nuts and fruits. They usually live above the ground. They can climb walls and trees, walk pipes, electric and telephone wires, use tail for balancing while walking wires.

1. **Rattus rattus alexandrinus**

Grayish color, slender body, large ears. Gray belly, tail longer than body.

2. **Rattus rattus frugivorous**

Grayish color, slender body, large ears. White or lemon colored belly, tail longer than body.

3. **Rattus rattus rattus**

Black or maltese in color, slender body, large ears. Tail longer than body. Usually called Black Rat.

There is one species of **Burrowing Rats** with which we are concerned.

Rattus norvegicus

Often called Brown Rat, Sewer Rat, Norway Rat. Brownish color, short thick body, short ears. Tail about length of head and body. Usually larger than the Climbing Rat. Lives under or in buildings, rubbish piles. Burrows in ground. Fairly good climber. Eats almost anything.

WE ALSO HAVE MICE!

Mus Musculus:

This is the common house mouse. It is a separate specie and is not a young rat as some people think. The common house mouse is grayish brown in color but both black and spotted mice are found occasionally. They are good climbers and very destructive.

A DEFINITION

Webster's dictionary tells us that rodents are: "An order of gnawing mammals — such as rats, squirrels, beavers, etc." This issue of **FLORIDA HEALTH NOTES** is concerned only with rats, and to a lesser extent, mice.

LIFE CYCLE OF A RAT

Rats multiply very rapidly. The female produces offspring at the age of three months. The period of pregnancy is about 21 days. The average number in a young litter ranges from 5 to 9 and as many as 21 have been found in a nest. One mathematician has calculated that a pair of rats having plenty of food and shelter and producing up to their biotic potential could produce 1,400 rats in a single year.

It will be seen therefore that getting rid of rats is not easy and the task cannot be accomplished by hit and miss methods. Success depends on intelligent effort plus patience and perseverance. Some people spend a lot of time trying to get rid of rats but they do not succeed because they do not direct their efforts wisely. The rat is a cunning creature and very adept in eluding the traps, poisons and other pitfalls man has devised to exterminate it. Outwitting them requires skill and resourcefulness. Studying their habits and using this knowledge will be of great help in getting rid of them.

WHY DO WE HAVE RATS

Why do we have rats and mice? The answer is both simple and embarrassing. We have them because we make life too easy for them. We provide them with plenty of food and give them fine shelter. If people would quit feeding them and destroy the harboring places an amazing decrease in the rat population would be noted in a very short time.

The rat needs four things on which to live, namely: (1) Air (2) Water (3) Food (4) Shelter.

Nothing can be done of consequence to reduce the amount of air or water that the rat requires for existence. The attack therefore must be centered on reducing their food supply and doing away with their hiding and nesting places.

INSIDE AND OUTSIDE . . .

Accumulations of trash and debris furnish ideal hiding and nesting places for rats.

Harborages or hiding places inside the buildings on the premises as well as those found in the yard should be destroyed.

Rats often live and build their nests in the hollow space between the double walls of a building making it difficult to reach them. Hollow double walls should be eliminated to the fullest extent practicable.

Merchandise should be stored on a rack at least six inches above the floor and at least one foot from a wall so there will be light and space in which to work all around the merchandise.



A little "clean-up, paint-up" campaign would do wonders in getting r.d of this potential rat-breeding trash dump.

Outside, useable lumber and other materials of value should be placed on racks at least one foot above ground and at least one foot away from any wall.

All other trash and debris should be hauled away or completely burned.

GARBAGE

Handling: Garbage which is thrown out on the ground or placed in uncovered cans, boxes or barrels provides the rat with an easily-reached source of food. Since garbage usually consists of food scraps from the table, and the unused portions of raw and cooked foodstuffs, it contains almost all the elements of a balanced ration for the rat and no vitamin pills need be added to round out a perfect diet!

Storage: All the garbage should be placed in ratproof containers with lids. The lids should be kept in place until the garbage is picked up by the garbage collector.

The garbage collector should keep the garbage covered while in transit and make sure there is no spillage en route to the place of disposal.

Disposal: In organized communities the garbage should be disposed by incineration or the "land fill" method.

In unorganized communities and at homes and establishments where the individual has to take care of his own garbage, disposal should be by complete burning and/or deep earth burial.

Uncocked garbage should not be fed to hogs.

If all garbage were protected while awaiting removal, many sources of food would be eliminated and the rat would have more difficulty in finding enough to eat.

GETTING RID OF MICE

Mice are not nearly as cunning as rats and are less difficult to eliminate from a building. Probably the quickest way to eliminate them is by trapping with the ordinary mouse or rat trap which can be bought from the local stores in almost every community. Bait the traps with bacon or cheese, set on hair trigger and place the traps at points the mice are known to frequent. Whole colonies have been caught in a few nights by this method.

Another way is through the use of poisoned bait which likewise should be in or near the places frequented by the mice.

There are a number of ready mixed baits on the market which can be purchased if one does not care to do the trapping or mixing up the bait.

MORE THAN ONE WAY

There are many ways of getting rid of rats. (And make no mistake — if we all worked together we could get rid of them.) One of the most popular methods is through poisoning with various substances. But before we begin to discuss this in detail, we would like to give you some hints that apply to practically all poisons that might be used:

1. Poison and bait material should be accurately weighed and thoroughly mixed. Thorough mixing will insure an even distribution of the poison throughout the bait.
2. Do not use spoiled or tainted foodstuffs as bait.
3. Place poisoned bait in or near rat runs and other places frequented by rats.
4. Distribute bait liberally so the rats will not need to search for it.
5. Be sure the amount of bait distributed is enough to kill all the rats.
6. Bait should be placed where children or domestic animals cannot get to it. The use of protected bait boxes is recommended where poisons other than warfarin or red squill are used.
7. Where poisons other than warfarin are used it is usually best to put out several different kinds of food bait.
8. Where warfarin is the rodenticide used, a cornmeal or similar cereal-type bait seems preferable.
9. A bait should contain more than one distinct flavor.
10. Where poisons other than warfarin or red squill are used the poisoning should be done by trained personnel.

WARFARIN

One of the newest and most spectacular rat poisons is **Warfarin**, a white powder containing an antiblood coagulating chemical which gradually causes internal hemorrhage. This material was formerly known as Compound 42. It is sold under a great number of trade names. The individual should note that the label on the package has the word "Warfarin" or "Compound 42." If the label does not carry one of these two names, the material should not be purchased if warfarin is sought.

It is tasteless and odorless in concentrations ordinarily used for rodent control. It is an accumulative (slow) killer. An unusual feature of warfarin baits is that a single dose is rarely fatal even to rats and mice. Warfarin is not a miracle poison. It must be eaten several times (usually five or more) over a period of several days to produce death. Apparently the feedings need not be on consecutive days but if rodents eat the bait every second day or oftener a good kill can be expected.



Unightly mess, isn't it? To a hungry rat, however, this garbage dump looks like a banquet at the Waldorf. Several rat burrows were discovered nearby.

Rats and mice eating bait mixed with warfarin in proper proportions over a period of several days die of internal bleeding. Death seems to be painless. Rats dying from the warfarin bait apparently do not cause other rats to shy off from the bait. The remaining rodents continue consuming the bait material.

Never use spoiled or mouldy materials as bait. Whatever kind of bait is used it should be chopped or ground finely enough so that the warfarin can be evenly mixed into it.

Some of the materials which have been used as bait are coarsely ground whole yellow cornmeal, rolled oats, laying mash, sweet feed, bread crumbs, nut crumbs, dog food, ground meats, fish, sardines, fruits and vegetables.

It seems preferable to use grain or cereal-type baits as they are unattractive to flesh-eating animals, such as dogs and cats. While a cereal-type bait would be attractive to chickens it has been found that poultry receiving a balanced diet, especially one high in vitamin K are highly resistant to the chemical in warfarin.

Probably the best bait to use is coarsely ground yellow cornmeal or a mixture of equal parts yellow cornmeal and ground rolled oats. Both of these materials are cheap and easily obtained and they do not spoil quickly. When meat, fish, vegetables, or other perishable type bait is used the uneaten bait must be picked up and fresh bait put out daily.

How to Mix: Mix one (1) part warfarin with nineteen (19) parts bait material and stir thoroughly so the warfarin will be evenly distributed throughout the bait material. The warfarin and the bait should be weighed accurately to insure obtaining a mixture of the proper strength.

Five (5) per cent of mineral oil may be added to prevent excessive dusting of the dry cereal-type bait. Up to five (5) per cent of sugar may also be added to improve acceptance by black rats and mice. The weight of the sugar and mineral oil, if added, should be counted as bait material. One (1) part warfarin to nineteen (19) parts bait; or one (1) ounce warfarin to nineteen (19) ounces bait.

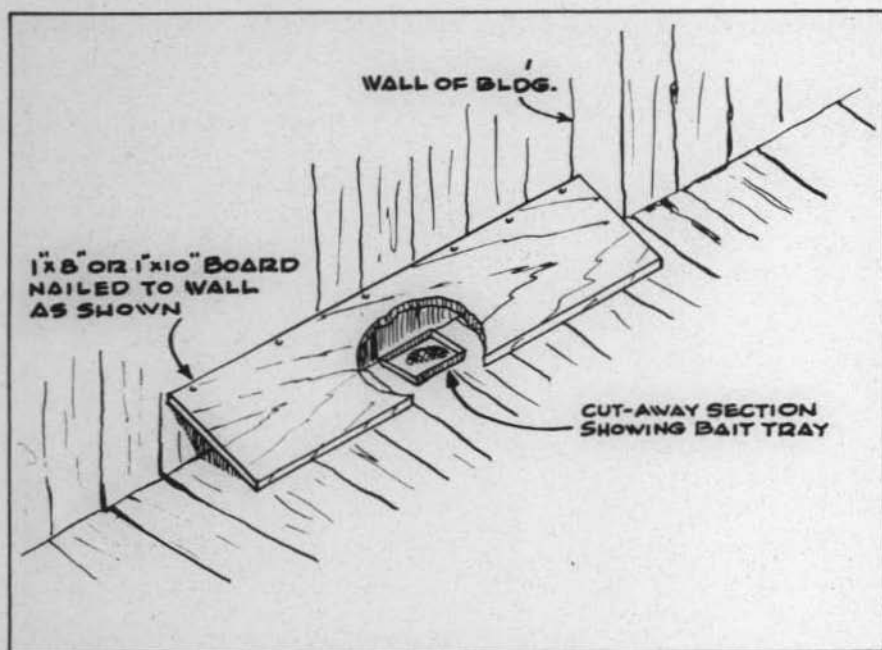
Where to Place the Bait: The bait should be distributed in rat runs and places frequented by rats. The bait should be placed where it will not be easily reached by children, dogs or cats and where it will not get into food. A 1x8 or 1x10 board about four to six feet long leaned against the wall and fastened to the wall so that it will remain in place makes a good temporary bait station.



A grocer who pulled down his shelves during a remodeling job was shocked to discover these rat holes in the wall. Here a rat control expert places a "bait" containing warfarin, the new and highly-effective rat poison, in shallow paper dishes near the ratholes.

Where bait is to be left out continuously, protected bait boxes should be used. Shallow open containers with flat bottoms which will hold at least eight (8) ounces of bait and are wide enough so they will not be easily tipped over or upset by the rats should be used to hold the bait. These containers may be of metal, wood, glass or plastic construction. Ordinary tin plates, sardine cans, cigar boxes, soup plates and the like will serve the purpose. Card-board containers are easily obtainable and can be purchased from supply houses at very low cost. Light weight containers should be nailed to the floor so the rat cannot drag the tray away.

Warfarin bait should be left out at least 14 days. During this period the containers should be kept filled so there will be plenty of the bait available for the rats to feed upon. For the present, only solid bait material should be used. Warfarin in its present form is not very water soluble and because of this a water bait would not be likely to prove effective.



Temporary Bait Station
(often used with warfarin)

Outside Baiting: Farmers and truck growers are frequently troubled with rats eating the seeds they plant and damaging the growing of matured crops. In some cases the loss is severe. It is believed that warfarin might be used to advantage in reducing the damage caused by rats in these ways. Our suggestion would be to mix up a grain or cereal-type bait to which 5 per cent of mineral oil has been added. Place the warfarin bait in bait boxes or bait stations which should be widely dispersed at selected points in and around the edges of the field.

The main requirements would be for the bait box to have a leak-proof top, openings through which the rat can enter, and to be large enough so the bait can be placed far enough from the openings to keep it from getting wet by wind-blown rains. If the bait containers are kept filled the rats may establish the bait box as a regular feeding place, in which event they would soon meet their doom.

"1080"

Sodium fluoroacetate, commonly referred to as "1080," is a very effective rat and mouse poison. It is highly toxic and there is no known antidote for it. **IT IS TOO DANGEROUS FOR THE GENERAL PUBLIC TO USE.** The poison should be handled only by persons who know the grave dangers connected with its use and who will take the recognized precautions to prevent accidental deaths of humans and domestic animals.

Pest control operators and other personnel using "1080" as a rodenticide should handle it in accordance with the regulations adopted by the Florida State Board of Health in which are set forth the safety precautions to be observed in the use of this poison. One human death in Florida has allegedly been due to failure to observe adequate precautions in using this rat killer.

RED SQUILL

Squill, (*urgingea maritima*), also known as scilla, or sea onion is a perennial herb that grows wild along the coast of the Mediterranean Sea. The bulbs are pear-shaped and may weigh from one (1) to four (4) pounds. There are two commercial varieties of squill. White squill is an official drug in the various pharmacopaeias and is used as a heart tonic, diuretic, and nauseant expectorant.

Red squill is similar to white squill but has certain toxic characteristics about which little of a definite nature is yet known, except that it can be used as a rat poison. **Fortified red squill** is available commercially in powdered or liquid form under a variety of trade names. Some firms sell ready-mixed red squill baits, which if fresh and of proper strength, and attractive to rats will give a good kill. Red squill is relatively safe to use as it is objectionable to most domestic animals. This is partly due to its acrid taste which is highly objectionable to people and to most animals and also to the fact that it acts as an emetic and causes vomiting when taken in dangerous quantities. The reason it kills the rat is that a rat cannot vomit.

The effectiveness of the squill may vary widely due to the conditions under which the bulb is grown and processed. Because of this, commercial red-squill rat poisons may lack uniform potency. The difficulty of obtaining a uniform toxic preparation has retarded its development.

It is important therefore that care be taken to obtain a brand of squill that is kiln dried and is of proven laboratory strength.

The usual amount used is:

1 oz. red squill to 9 oz. bait

4 oz. red squill to 36 oz. bait.

The red squill powder should be kept in a dry place as it has a tendency to cake or solidify when it gets damp.

Red squill is a one-dose poison but not a quick-killer. When a sufficient quantity of red squill bait is eaten by the rat, death usually occurs in from 8 to 24 hours.

Liquid extract of red squill is also available in a concentrated liquid form which is standardized. Liquid squill should be mixed one (1) part of liquid squill to nine (9) parts of bait material.

WHAT TO DO IN CASE OF ACCIDENTAL POISONING

We have stressed the importance of observing proper precautions in connection with the use of the highly toxic poisons as rodenticides, in order to minimize to the fullest extent possible the accidental poisoning of humans and domestic animals.

It is realized however that in spite of these warnings some accidents may occur. When they do, quick action of the proper kind is essential to prevent a fatality. Try to expel the poison from the stomach by inducing vomiting by giving mustard; or salt in warm water; or inserting finger in throat. If you use rat poisons, know what the proper antidote is, and have some on hand, if possible. But the most important point is to get to a physician immediately so that he can institute measures that will minimize any ill effects. All poisons are labeled with the proper antidotes. Use them quickly in the event of accident.

DUSTING WITH 10 PER CENT DDT POWDER

It is a good plan to dust any rat infested premises with 10 per cent DDT powder at any time, and particularly a few days before poisoned rat bait is distributed. Experience has shown that 10 per cent DDT powder is effective in killing the fleas, mites, and lice which practically every rat harbors on its body and in its fur.

Distribute the DDT powder in the rat runs and other places frequented by rats. In its travels the rat is almost sure to pass through the dusted areas. In this way enough of the DDT powder will be picked up on its fur to kill most of the parasites on its body.

The amount of powder required for properly dusting a premise ranges from three to 10 pounds depending on the area to be dusted. The hand duster or hand shaker designed for this purpose may be used in distributing the dust. If a duster is not available, a home-made shaker can be made by punching holes in the top of a Mason fruit jar or other similar container.



Metal strips along this doorway make it impossible for rats to gnaw their way into the building.

MODERN TRAPPERS

Another way of getting rid of rats is by **trapping** them. There are many kinds of rat traps on the market ranging from simple construction to highly mechanical designs.

The kinds of traps that are usually used in catching rats are:

- (1) Size 0 steel trap
- (2) Wire cage trap
- (3) Wood Snap trap
- (4) Wood box trap (similar to rabbit trap)

Traps should be set in the rat runs or near the places where rats feed. Signs such as rat droppings, greasy marks, tracks or damaged merchandise serve as guides in the placement of the traps. Large numbers of traps should be used at the start. After the first few nights, the remaining rats learn to avoid them. Trapping, whether with baited or unbaited traps, depends on the element of surprise. In trapping, the abilities and habits of the rats must be taken into account. Traps must be clean and in good working condition. They should be set at hair trigger so they will trip easily.

Traps can be used with or without bait. A rectangular piece of cardboard placed on the trigger of a snap-trap will convert the trap into a good rat catcher. A rat in scampering may step on the cardboard, spring the trap and be caught. When baits are used they should be carefully selected, and be fresh and wholesome. The bait should be fastened to the trigger of the trap so it cannot be taken without tripping the trap.

No matter how much care has been exercised in placing, baiting and setting the traps, there will be times when the catch is far below expectations. Getting rid of rats by trapping calls for patience and perseverance.

GAS EFFECTIVE KILLER

Entire colonies of rats may be killed by treating their burrows with cyanogas ("A" Dust). The dust can be forced into the burrows by means of a cyanogas foot pump. This is a hand-pump operated like a tire pump for blowing the cyanogas "A" dust into the burrows.

The gas is liberated when dust comes in contact with the air and the killing effect is instantaneous. It kills not only the rats but fleas and other ectoparasites that may be in the burrow.

Run the hose into a hole in the burrow, pump about five strokes and pull the hose out. Close all holes from which you see dust emerging by tramping shut or covering with a shovelful of soil.

"A" dust can also be used to clear rats out of inaccessible places within buildings but extreme care should be taken to see that the building is cleared of humans and domestic animals before the gassing is undertaken. Caution is necessary. **LET A TRAINED MAN USE THIS DANGEROUS POISON.**

FUMIGATION OF BUILDINGS

Fumigation with hydrocyanic acid gas is the most effective and the quickest way of destroying rats and fleas when it is done properly. The gas is very dangerous to use. It will kill people as quickly as it kills rats and fleas. Fumigation in which cyanide gas is used should be done only by persons experienced in its use. Under Florida law only certified operators may do fumigation work. **It is definitely no job for amateurs.**



Another example of metal flashing shows that the protection afforded against rats can be designed for ornamental value where such a touch is advisable.

RAT PROOFING

Ratproofing, sometimes called rat stoppage, is the surest way of keeping rats out of a building. Here is where "an ounce of prevention is worth a pound of cure." Ratproofing is a relatively simple procedure. It consists of closing and/or blocking off all openings through which rats can get into a building by climbing, burrowing or otherwise. Some persons may say they have a rat-proof building without considering what size openings they have in their vents, under the doors, between the sidewalls and roof or flooring, the chimney, plumbing vents, where plumbing or electrical wires enter the building, and other places where a smooth, floor or roof has been entered or broken. All materials used should be gnaw-proof against rats, for there are many places a rat may have access to because he has chewed his way through.

Any opening over $\frac{1}{2}$ inch in diameter, or a **place in which you can stick your index finger**, will allow rats to enter a building. If a rat can get his head through a hole, he can pull the rest of his body through the same hole. This is because his body is more pliable than his head.

Ratproofing often includes necessary structural changes in buildings and equipment, and also keeping food and garbage in ratproof containers.

UNPLEASANT ODORS

Man has long sought a rat poison which would cause the rat to leave the building and go outside to die. Up to now, no one has developed a preparation with such miraculous power but the search goes on.

In poisoning work, a few rats may die within or under the building where poisoned bait has been distributed. Sometimes a rat enters from other premises and occasionally one dies or gets killed from other causes. Decomposing dead rats give off a very disagreeable odor which may persist for 10 days or more. The best method is to remove the dead rat and treat the area with an antiseptic solution. If the dead rat cannot be located, the odor may be masked with one more pleasing, such as oil of wintergreen, peppermint, pine oil and creosote in solution. A new preparation, "Isobornyl Acetate," has recently been placed on the market for this purpose by one of the manufacturers of rodenticides. Up to date, reports on this product have been favorable.

LICENSED STRUCTURAL PEST CONTROL OPERATORS

In 1947 the Legislature passed a law known as the Structural Pest Control Act. This law requires that a person desiring to engage in structural pest control work shall successfully pass an examination and be certified as qualified to do this type of work by the Structural Pest Control Board and be licensed by the State Board of Health before starting operations within the State.

The individual or business establishment which does not have the time or the desire to carry out the procedures recommended herein and others that may be necessary should secure the services of one of the licensed structural pest control operators to carry out the proper methods of control.

... AND NOW

If we haven't answered all your questions — or solved all your rat problems in this issue of **FLORIDA HEALTH NOTES** — call upon your local health department. They will be glad to assist you. Many of them carry on rat control programs.

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All counties in Florida have organized county health departments except
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*Rats are parasites. They contribute
nothing toward their support. They
pilfer and contaminate valuable
foodstuffs. They damage property.
They spread disease. Anyone can
get rid of rats. What are you waiting
for?*

The background of the cover is a black and white photograph of a classical building with several large columns. The words "STATE BOARD OF HEALTH" are inscribed on the pediment above the columns. A large, stylized script word "Florida" is overlaid on the top half of the image, with a thick black rectangular box positioned over its lower portion.

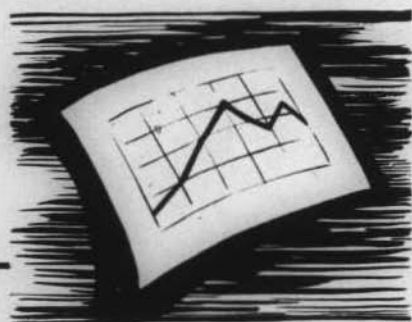
Florida

HEALTH NOTES

JUNE
1951

SO FAR — SO GOOD

Vol. 43
No. 6



???

What is the FLORIDA STATE BOARD OF HEALTH? To some it is offices in Jacksonville — the main building overlooking old Raspberry Park. To Florida's 2½ million citizens and many visitors, it is a mighty force protecting their health and making Florida a healthy, prosperous place in which to work, play and live. To local health departments, it is the place from whence comes advice, assistance and a degree of financial support.

The year 1950 was as profitable from the standpoint of public health as any since the State Board of Health was founded in 1889. As you turn the pages, be proud that you, as a citizen of Florida, helped in many ways to make better health a possibility for yourself and your neighbors.

FLORIDA HEALTH NOTES

Published monthly except July and August on the 5th of the month by the Florida State Board of Health. Publication office, Jacksonville, Fla., headquarters of the State Board of Health. Entered as second class matter, Oct. 27, 1921, at post office, Jacksonville, Fla., Act of Aug. 24, 1912. It is intended primarily for individuals and institutions with an interest in the state health program, public and private. Permission is given to quote any story. Clippings of quotations or excerpts would be appreciated.

Local Health Service

Florida is extremely proud of the fact that out of 67 counties, 64 have accredited county health departments. The three counties that did not have these facilities for their communities at the end of 1950 were, Lee, St. Johns, and Collier. As you read through this chronicle of the State Board of Health activities for 1950, it is well to remember that in many instances activities of the State Board of Health are centered toward giving technical, consultative or informational assistance to **county health departments**. For it is on a local level where much of the work must be done to directly benefit the health of our citizens. County health departments are not just for the poor or the rich, they're for everybody.

While the number of accredited health units has been increasing, funds from State and Federal sources have not kept pace, and concurrently there has been a sharp increase in population. This means that county health departments have had to care for more people even though they had less money. It can easily be seen that the standards of services must necessarily suffer. It is apparent that in order to maintain high standards it will be necessary for local sources in many instances to increase their per capita contributions to health work.

Since this portion of our work concerns all public health personnel, we would like to mention that an interesting experiment was carried on during the past year with the public health nurses. A plan was worked out for public health nurses in the various counties to visit the tuberculosis sanatoria in the State and in turn for staff nurses of the sanatoria to visit the counties so that they might see some of the homes from whence their patients came. This has resulted in public health nurses being able to interpret to prospective patients more clearly, details about the sanatoria, and in staff nurses from the sanatoria being better

prepared to know how to care for individual patients in view of their home background.

One rather unique activity of public health nurses in this State is the supervision of the licensing of midwives. There are 422 currently licensed in Florida. Incidentally, there were 381 public health nurses at the end of 1950.

The State Board of Health maintains a Field Training Center at Gainesville under the direction of the Director of the Alachua County Health Department. During 1950, 68 persons went through the Center. The purpose of the Field Training Center is to provide better trained persons to work in our county health departments.

There is also a Field Technical Staff composed of specialists in the field of public health, who travel constantly over the State in order to help improve the activities of local health departments. They don't go in and give orders; they do offer assistance which is gratefully received.

Health services begin in your local community — hence county health departments. It is the health services of these departments that produce the visible results in public health programs planned locally with the help of the State Board of Health. The county health department is the State Board of Health to people in our cities, towns and rural areas.

Maternal and Child Health

There is an old adage in public health which says the infant death rate is the best index we have of a community's health. And since the lives of all of us are undeniably interwoven with the lives of mothers and children, the safeguarding of their health is a "must."

During 1950 there were 83 deaths in Florida directly attributed to pregnancy and 7 deaths where pregnancy was considered a factor. The chief causes of these deaths are infection, toxemias and hemorrhage. While our maternal death rate is decreasing, Florida still stands in the 45th place in the nation. That leaves only three other states who have more maternal deaths per thousand population than we do. But many persons and groups are working hard to save these mothers. Some of the medical societies have set up local Maternal Welfare Committees in order to study these deaths. There has been increased attendance of expectant mothers at prenatal clinics and at the offices of private physicians. County health departments, in cooperation with the State Board of Health, have tried to give better supervision to our essentially untrained midwives. Increased hospital facilities for colored and indigent white patients were noted in 1950. There are still about 10 counties which have no prenatal clinics for those persons unable to go to private physicians. However, 3,713 prenatal clinics were held by the county health departments. The attendance at these varied from two or three patients in the less populated counties to more than 100 in one county. One in every three mothers returned to these clinics for the important six weeks' checkup after the birth of her baby.

The greatest cause of death today in Florida among infants is that which comes as a result of premature births. This situation can be helped when all prospective mothers realize the necessity of procuring adequate medical care early in pregnancy. Four doctor-nurse teams from Florida were awarded fellowships at the New York Hospital—Cornell Medical Center so they might attend institutes in the care of the premature infant. Postgraduate training has been given to a number of nurses from hospitals who returned to their institutions to instruct other members of their staff. A special demonstration unit has been established in Jack-

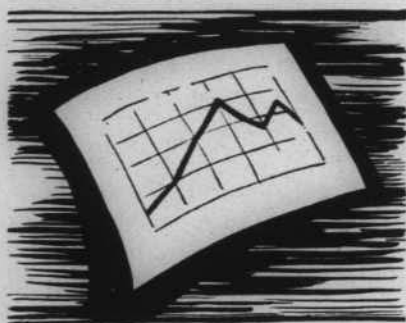
son Memorial Hospital in Miami. This unit will provide direct service to premature babies from Dade, Broward, Palm Beach, Monroe and St. Lucie Counties. It will also serve as a training unit for personnel from other parts of the state.

Thirty-five specially constructed Prigel Carriers were made available from county health departments. There are used for the transportation of premature infants from the home to the hospital. A total of 2,049 babies under one year of age died in Florida in 1950. Florida stands 42nd in the Nation in infant deaths.

As a part of any maternal or child health program, the State Board of Health was extremely interested in assisting the various county health department in working out hearing programs. Audiometers have been distributed and located in each of the county health units. This testing is usually done on children of school age. When a defect is found a child is referred to his private physician. If the family cannot afford to pay for care, various local organizations try to work out this problem.

The same type of program is carried out in relation to the detection of vision defects. The various county health departments have worked out vision testing programs with the schools. This testing is carried out by different personnel in the county units. In 23 counties the initial screening is carried out by the teachers followed by the public health nurse in questionable cases.

Cooperation is always the key word with health workers. The Bureau of Maternal and Child Health has worked with many groups during the past year. The Florida Council for the Blind is one example. Local health departments referred 286 children to the Council in 1950. This bureau was also involved in the writing of Bulletin No. 4, Florida School Health Program. A special meeting to revise this valuable bulletin was called by the Florida State Department of Education and the Florida State Board of Health. The Florida Crippled Children's Commission, the Cerebral Palsy Association, the Florida Chapter of the National Society for Crippled Children and Adults, the Florida State Conference of Social Work, and the Florida State Welfare Board — all these agencies were conferred with in an effort to help solve some of Florida's problems concerning mothers and children.



Vital Statistics

In times past, birth and death records were looked upon as a nuisance which it was necessary to maintain in order to provide some starry-eyed statistician with figures for his amusement, or to meet the demands for passports for those traveling abroad. Those times are gone forever. For instance, birth records are routinely required for school attendance, athletic participation, old-age assistance, aid to dependent children, child labor permits, voluntary enlistment in the armed services, etc. Birth records are supposed to be very simple, yet after the birth is recorded and the local registrar sends it to the State Board of Health, it goes through nine more steps of checking and double-checking.

Here are some figures of interest for Floridians for 1950:

There were 64,338 resident births

(that's a rate of 23.3 per thousand population)

There were 1,267 adoptive birth certificates placed on file.

2,566 delayed birth certificates were registered.

72,873 requests were received for searching.

64,412 certifications were issued.

There were 26,533 deaths among residents

(that's a rate of 9.6 per thousand population).

The two greatest killers were heart disease and cancer.

310 persons committed suicide (it was 345 in 1949).

27,086 marriages were performed in the State.

17,848 divorces were granted.

(Incidentally, June & December are the high points for marriages; divorces appear to reach their peak in March, April & May).

There's no standing still in public health work. When one disease is conquered, another begins to receive more attention. So the Bureau of Vital Statistics must also keep records of illness and death. These are known as morbidity and mortality rates. It is responsible for the collection, tabulation, study and preservation of such figures. We will discuss what some of these figures mean in other pages of this issue of Health Notes.

Health Information

The State Board of Health dispenses a lot of information about health. In the Division to which this work is entrusted, there are personnel who work with, or for, all other Boards and Divisions in the State Board of Health, county health departments, local and state voluntary health agencies and just plain citizens — all to bring about better health for all who live in Florida. They try to draw together the various activities so that everybody benefits from joint activities — coordinated talents — combined resources.

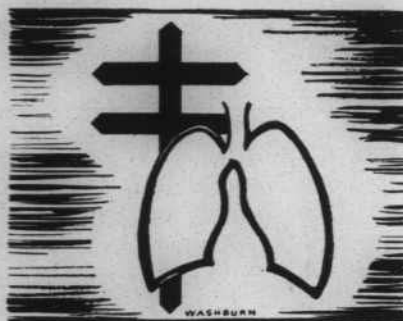
How is the public educated or informed about health? There are many ways: films, pamphlets, news releases, institutes, meetings, etc. Here are some of the things that were done in 1950. For instance, the Film Library:

	1950	Increase over 1949
Number of films shipped	4,430	31%
Number of times shown	11,734	31%
Number of persons viewing films	950,293	19%

The artist completed 365 projects, large and small. The Food Handlers Training Program reveals that there were:

- 24 Food Handlers Programs conducted in 16 counties
- 3009 individual certificates issued
- 264 special establishment awards made for having at least 80 per cent personnel certification
- 156 class sessions held
- 312 hours spent in actual course instruction.

Health Notes was sent to approximately 10,750 persons each month, except July and August. The Library circulated 7,833 books, periodicals, pamphlets, reprints and microfilm. "Life and Death in Florida 1940-49" was compiled. Assistance was given in the establishment of several local health councils. Services were rendered to teacher workshops. Approximately 50 news releases were prepared. And so on — and on — and on —



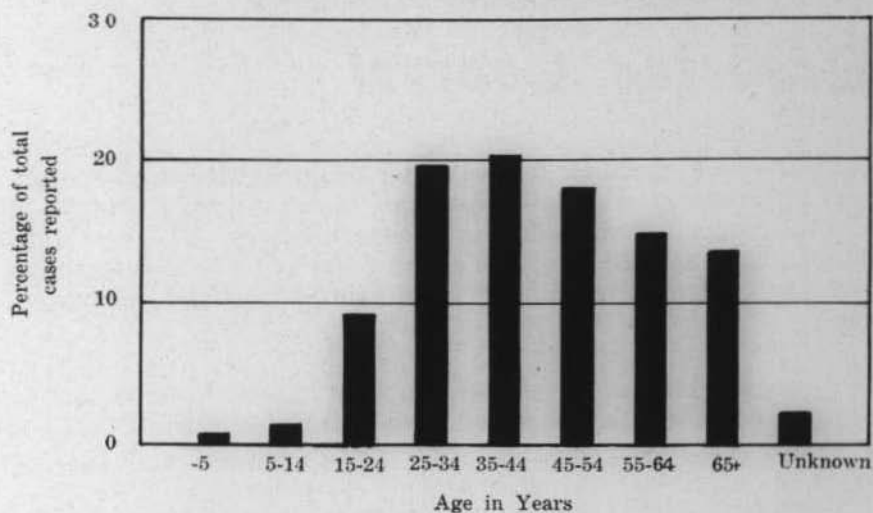
Tuberculosis

When you talk about tuberculosis, you must of necessity give figures — how many people were x-rayed, how many admitted to Sanatoria, etc. But the hidden factors are far too often forgotten — when tuberculosis strikes, how many bread winners were taken from their families, how many children were deprived of a mother's care, how much did it cost the county to help care for the patient and his family. Human suffering and distress is why we fight tuberculosis — not just so we can show a reduction in cold impersonal numbers.

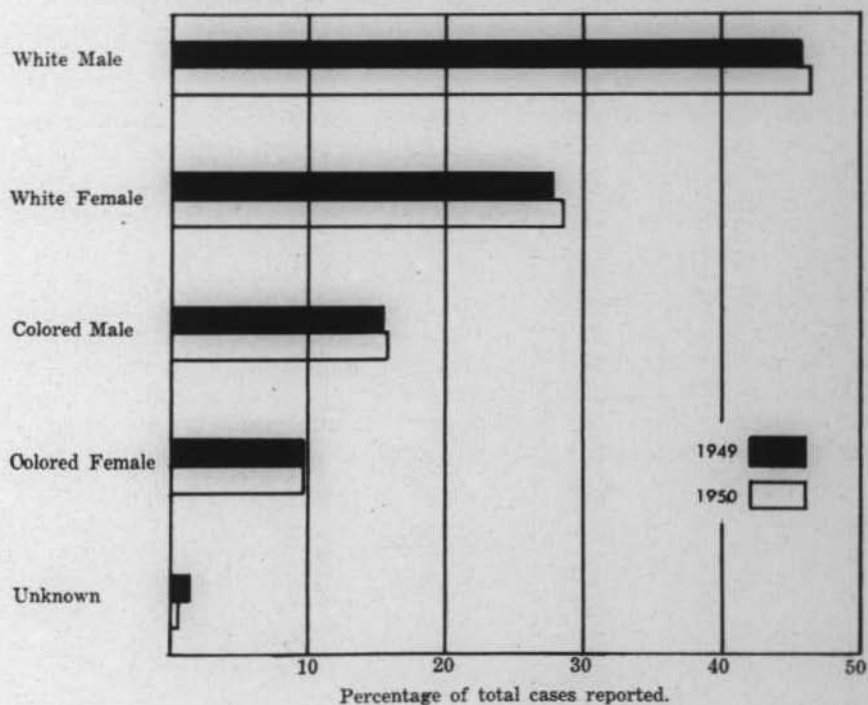
The death rate for Florida for 1950 decreased from 26.3 per 100,000 in 1949 to 19.1 per 100,000. We are below the national average. The number of cases of tuberculosis reported in 1949 was 3,198. In 1950 there were only 2,337 cases reported in spite of increased case-finding activities. A total of 412,996 persons received chest x-rays in 40 communities and institutions in the State. Of this number 421 had definite tuberculosis, 3747 were suspicious of tuberculosis, and 3844 had other conditions in the chest cavity, such as heart disease, lung cancer, etc. All of these persons were referred to their private physicians for further study.

At the end of 1950 there were 1,615 cases of tuberculosis in Sanatoria in Florida, which is a marked increase over the 1,242 cases hospitalized in 1949. This does not mean that there is an increase in the disease, for there was not, as indicated by the figures above. But there was a better understanding that Sanatoria are the best place to be if you have a communicable disease, like tuberculosis, if you want to protect your family — and perhaps most important of all — if you want to follow a regime and doctors' treatment that will get you well in the shortest period of time.

PERCENTAGE OF TUBERCULOSIS CASES
REPORTED BY AGE GROUPS, FLORIDA, 1950



COMPARISON OF PERCENTAGE OF TUBERCULOSIS CASES
REPORTED BY RACE AND SEX FLORIDA, 1949 AND 1950



Nutrition and Diabetes Control

In the report which followed the National Health Assembly held in Washington several years ago, better nutrition was listed as an important item under unfinished business. The year 1950 found nutrition still "unfinished business" in Florida, although growing evidences of interest in the subject offered encouragement.

Nutrition studies have been important in helping to define problems in Florida. Some of those completed during the past year are as follows:

Nutrition in Pregnancy: A study begun in March 1949 in cooperation with the Bureau of Maternal and Child Health and the Alachua County Health Department was completed. Because of the prevalence of so-called anemia of pregnancy in Florida, the study was designed to test the efficacy of various forms of iron in the treatment of anemia.

Nutrition and Anemia: At the request of the health units and the schools, studies were carried out in several counties to determine the incidence of anemia in certain school groups. These were carried out primarily in Duval, Nassau, and Leon Counties.

Because it is felt that school health work is definitely important and because the local health department personnel feels that nutrition education in the schools is a good line of attack, much of the staff work has been centered on schools. In several instances a nutritionist has accompanied the doctor and the nurse to the school and has discussed with the parent any cases of malnutrition detected by the physician during the school physical examinations.

Perhaps you have wondered how much diabetes there actually is in Florida. To give you an idea, below you will find the results

of tests that were made in the various counties by personnel assigned to the diabetes trailer.

County	Tested	Suspected Cases of Diabetes
Baker	317	3
Calhoun	384	12
Clay	764	17
Columbia	1380	22
Duval	4597	50
Franklin	345	4
Gadsden	1237	22
Gulf	377	5
Hamilton	365	8
Holmes	684	14
Jackson	2835	18
Jefferson	678	21
Leon	4898	53
Liberty	312	3
Madison	829	12
Nassau	432	10
Suwannee	1349	34
Taylor	407	5
Wakulla	251	7
Washington	666	20

All persons who were found to be suspected of diabetes were referred to their private physician as neither the State Board of Health nor the county health departments treat this disease. Much educational work has been done. A monthly bulletin for diabetics called "Timely Topics" was sent to all diabetics in the State on a mailing list furnished by the county health departments. It is a one-page bulletin which gives suggestions and encouragements to diabetics in the control of their condition.

Necessary treatment for many diabetics is insulin. To those who are unable to afford it, the State Board of Health dispenses it through the county health departments. So many people requested insulin that it was necessary to ration it toward the end of 1950. A total of 1,481 persons received insulin from this source last year. It is interesting to note that almost twice as many men as women receive it.



Mental Health

Mental diseases take a tremendous toll of our people each year. Yet many of these diseases are preventable. Good mental and psychiatric care, education, mental health clinics — these and many other factors can do much to keep the number of patients in our State mental institutions from constantly increasing. Six mental health clinics were maintained in Florida during 1950. They were supported by federal, state and local funds. Six clinics are certainly not sufficient to take care of the problems of mental health and disease in the State, but the following will give you an idea of their activities:

Pinellas County: The Child Guidance Clinic admitted 241 new cases in 1950. In addition 65 cases were carried over from 1949 into 1950, making a total of 306 cases followed in this clinic during the year. The total number of visits of all patients amounted to 2,630. The largest number of referrals came on the initiative of the patients themselves, though the schools referred 26% and the courts and health department each referred 12%.

Dade County: This clinic, as is the case with the other five, has been active in working in close cooperation with both the School Department and the Juvenile Court. They are fortunate to have access to certain personnel from the University of Miami. In 1950, 270 new cases were seen in this clinic with a carry-over of 95 cases from the previous year. The types of problems presented in this clinic were:

Behavior disorders of children	51.1%
Mental deficiency	19.7%
Psychoneuroses	4.9%
Psychoses	1.9%
Character disorders	14.3%
Disturbance associated with organic and infectious diseases	8.1%

All the clinics in the State recognize the fact that children cannot generally be treated alone but that their improvement depends upon the improvement in the lives and attitudes of the adults who control them. Therefore, many times there is little that one can do for a child because the parents cannot be helped.

Leon County: Here the clinic is called the Human Relations Institute. It is staffed, in part, by personnel from Florida State University. In 1950 a total of 334 cases were seen, which represented 179 children and 155 adults. It should be emphasized that all these clinics rendered service to adjoining counties. For instance, Leon County received patients from the following counties: Bay, Jackson, Gadsden, Alachua, Wakulla, Calhoun, Madison, Franklin, Polk, Taylor, Orange, Holmes, and Gulf.

Orange County: Here again an institution of higher learning supplements local talent in that a professor of psychology at Rollins College served part time as a clinical psychologist for this clinic. During 1950, 210 new cases were seen in this clinic. Of that number 182 were children and 28 were adults.

Polk County: During 1950, 216 patients were seen by this clinic. Of that number, 174 were children and 42 were adults. This clinic examined all children admitted to the local spastic school. Patients came from many areas in this large county with its many communities.

Hillsborough County: The Hillsborough County Guidance Center continued to offer services in the field of Child Guidance and Marriage Counseling. A total of 247 patients were seen in the clinic. Of these 211 were children and 36 were adults. Since education of the public is a big factor, staff members presented 73 educational sessions during 1950.

Epilepsy

The epilepsy program in Florida has consisted primarily of institutes for professional and lay persons. The Dade County Health Unit organized a clinic known as the Dade County Seizure Clinic, which was subsidized by Vocational Rehabilitation. A total of 39 patients were seen in this clinic in 1950. During 1950 four new electroencephalographs were purchased in Florida and are located in Miami, Tampa, Tallahassee, and Jacksonville. This is a machine used as an aid in diagnosing epilepsy.

Dental Health

Many people in Florida, rich and poor, have some sort of dental defects, yet only about 1/4 of us do anything about it. The lack of money prevents some people from seeking dental care but procrastination and fear are the biggest obstacles to overcome. Therefore, it can be seen that one of the biggest problems in dental health is education.

During the latter part of 1950 a dental health educational field worker was employed to assist teachers in coordinating dental health education with their regular classroom teaching. Ninety-nine classroom talks reached 10,797 children in 34 elementary schools. This was only the proverbial "drop in the bucket," but it is hoped that in 1951 a much more comprehensive program can be undertaken.

Four county health departments, Duval, Dade, Hillsborough, and Pinellas, continued to operate fulltime dental clinics. As a result of their services 5,041 underprivileged children received corrective dental service, 38,918 children received dental examination in school. Of these, the parents of 33,877 pupils were informed that their children required dental treatment and were advised to secure the necessary corrections from the family dentist.

In 1950 interested civic organizations contributed sufficient funds and dental equipment to establish dental clinics in West Palm Beach and Pensacola. Each of these clinics is located in the out-patient departments of hospitals. Each is staffed by volunteer services of local dentists and operated on a part-time basis.

The State Board of Health has one mobile dental unit, staffed by a full-time dentist, which is assigned to rural counties where there are few or no dentists in private practice. This service was reactivated toward the end of the year in 10 schools in two counties; 228 children were given necessary dental treatment; classroom instruction on dental health and educational talks to adults were also included.

We can talk indefinitely about filling and pulling teeth and other dental treatment but it is more important to prevent such conditions from occurring. The year 1950 in Florida was outstanding from the viewpoint of progress in this field of prevention because of the approval of the fluoridation of community water supplies by the American Dental Association, the Florida State Dental Society and the Florida State Board of Health. This procedure allows sodium fluoride to be added to water supplies so that dental caries in children may be greatly prevented. In 1949 Gainesville initiated water fluoridation. In 1950 Mt. Dora and Naples complied with necessary requirements and installed similar programs.

In the latter half of 1950, the Dental Societies in Miami, Miami Beach, Tampa, Orlando, Ocala, St. Petersburg, Clearwater, Daytona Beach, Tallahassee, Quincy, and West Palm Beach approved water fluoridation and recommended that the local dental societies assist in carrying this project to a successful conclusion. Several of these municipalities are now initiating necessary steps for completing the program. Other communities have expressed interest and are developing plans to enable them to adopt this preventive measure.

Florida was fortunate to have a demonstration unit of the U. S. Public Health Service assigned to this State under the direction of the State Board of Health. In 1950 4,676 children in 12 elementary schools in seven counties received topical sodium fluoride treatments. This is the procedure whereby sodium fluoride is applied directly to the teeth of children in order to help prevent decay.

Sanitary Engineering

There are many things in our environment that affect our health — food, water, disposal of wastes, etc. In the State Board of Health there is a Bureau of Sanitary Engineering that is concerned with "environmental sanitation." This concerns the maintenance of safe water supplies and bathing places; to make sure that the water used on planes, boats and trains is safe; to supervise sewage disposal — from the construction of privies to designing sewage treatment plants; to direct stream pollution surveys; to plan rat control programs; to safeguard the standards of shellfish houses — all these and a dozen other responsibilities are in a day's work. Of course, experts from this bureau advise county health department personnel who do a great portion of this work.

But let's get down to actual figures. There were 100 projects for public water supply, treatment and system improvements for which plans were submitted to the bureau and which were approved during 1950. Their total estimated cost was \$7,920,982. This was a 59 per cent increase in the number of projects approved over 1949, with an increase of 208 per cent in estimated value. Probably much of this was stimulated by the fact that municipalities felt with a war construction program going on materials would be difficult to get. One of the big problems is the lack of extension of municipal water systems to real estate subdivisions. There were 101 permits issued for construction of new water supply wells as compared with 100 for 1949. During the year there were 34 permits issued for operation of bottled water plants.

There were 143 public swimming-pool-operation permits continued in 1950, and new permits were issued for the operation of 46 additional pools. Plans and specifications for 64 proposed pools and pool renovations, with an estimated cost of more than \$1,494,000, were approved. Certain recreational areas are permitted under definite standards of the Bureau. In 1950, 36 natural bathing places continued under permit, including three new places for which permits were issued.

Twenty-four sewer and/or sewage treatment projects were approved. The total value of these projects was estimated at \$10,325,910.

Personnel were active in investigating a variety of waste problems and in consulting with the concerns responsible. Plans for ten new programs were approved. The disposal of citrus-processing-plant waste continues as the number one industrial waste problem in the State.

Stream pollution work continued at a high level in 1950. The St. Johns River basin investigation is one of the major long-range projects under way.

Thirty-two plans were reviewed for schools having individual sewage disposal and/or water supply systems. This is in connection with a cooperative arrangement with the State Department of Education.

A total of 330 new and reissued permits for tourist courts and trailer camps were granted. The number of old permits that remained valid brings the total to 22,336 at the end of the year.

Canning plants must also have permits. Those on a permanent basis number 163. New permits issued in 1950 numbered two, making a total of 165.

Twenty-six plans for septic tanks and drain fields or sand filters were approved to serve such installations as restaurants, prison camps, hotels, state parks and a junior college.

A total of 92 operating certificates were issued for shellfish plants (oyster, scallop, clam, crab); 1,138 inspections were made.

Entomology

Probably the most important announcement from the Division of Entomology was the statement that malaria has been eradicated from the State of Florida as far as it is scientifically possible to do so at the present time. During the past year there was not an authenticated case of malaria reported from the State which originated in the State. But it must be remembered that as long as malaria is present in other areas of the world that a careful watch will have to be carried out to detect positive cases that may come into the State. Unless this careful watch is maintained it is highly possible, since we have many areas with malaria-carrying mosquitoes, that epidemics of malaria could reoccur in Florida.

During 1950 three mosquito control districts were voted in by the citizens of the City of Fort Myers, Monroe County and Fernandina, including Amelia Island in Nassau County. This makes a total of 18 operating mosquito control districts in 17 counties of Florida.

The State Board of Health enforces the rules and regulations for Structural Pest Control operators. During the year, 165 licenses were issued; 9 persons were warned to cease illegal pest control measures, with the understanding that unless they did so court action would follow. Two certificates were revoked.

Considerable progress was made during the year in the control of endemic typhus fever transmitted by rat fleas. In 1950 only 34 cases of endemic typhus fever were reported as compared to 123 cases in 1949. It is hoped that in a few years this disease can be eradicated from the State.

One of the important activities of this Division is DDT Residual premise spraying, in which homes are sprayed so as to control all types of insects. During 1950, 33,214 premises were treated, using 46,937 pounds of DDT.

Rat proofing activities were continued in Clearwater, Miami, Pensacola and Tampa.

Laboratory Services



Public health measures are based on discovering disease and effectively preventing its spread. The health officer believes he has found a typhoid carrier; a public health nurse thinks the new maternity case who has come to the clinic may have syphilis; a private physician wants to know if a young patient has diphtheria; a sanitary engineer discovers some impure water; the veterinarian learns of a "mad dog." How can all these people prove or disprove their beliefs? Chiefly through laboratory examinations. These are done by trained technicians who examine water, milk, food; sputum; blood; animal heads; throat and nose cultures — and make dozens of other tests.

The State Board of Health has a Bureau of Laboratories. There are also 40 private laboratories which were licensed during 1950.

We could talk indefinitely about the large volume of work done by our laboratories but the figures that follow speak louder than words:

TOTAL NUMBER OF EXAMINATIONS PERFORMED BY STATE BOARD OF HEALTH LABORATORIES, 1946 - 1950

LABORATORIES	YEAR				
	1946	1947	1948	1949	1950
Jacksonville Central	673,316	808,396	845,957	868,359	924,276
Tampa Regional	286,067	336,750	440,172	445,022	449,490
Miami Regional	217,950	227,561	364,739	417,908	447,943
Pensacola Regional	35,262	56,726	112,486	128,655	129,266
Tallahassee Regional	19,828	18,531	76,691	93,435	112,641
Orlando Regional			19,727	50,208	88,473
Melbourne Hospital		15,461	58,776	38,564	25,884
Pinellas County			11,700	21,317	30,529
Total	1,232,424	1,463,425	1,930,248	2,063,468	2,208,502

Hospital Inspection

Unfortunately all hospitals in the State of Florida do not have to be licensed. But those who receive funds from the United States Government (under the provisions of the Hill-Burton Act), must be inspected in conformity with the law passed by the State Legislature in 1947. A public health physician designated by the State Board of Health makes the inspection and both he and the superintendent of the hospital are required to submit an annual report of activities. Those hospitals built with the aid of Hill-Burton funds and inspected during 1950 were:

1. Live Oak (Suwannee County)
2. Panama City (Bay County)
3. DeFuniak Springs (Walton County)
4. Tallahassee Memorial (Leon County)
5. Variety Hospital, Miami (Dade County)
6. Duval Medical Center, Jacksonville (Psychiatric unit)
7. American Legion Hospital for Crippled Children,
St. Petersburg (Pinellas County)

Why is inspection and licensing necessary? It is a protection for the public. It also assists the superintendent and the governing body of these institutions to make a yearly review and to decide where changes of policy are due, so that they may better serve the community wherein they are situated.

Narcotics

Within the State Board of Health there is a Bureau of Narcotics. The activities of this Bureau read like a detective story. The inspectors cooperate with the Federal Bureau of Narcotics, the FBI, and State, county and city law enforcement bodies (including the State Highway Patrol). Tracking down the illegal seller of narcotics, the wretched addict, pursuing the "quack doctor" who preys on the ignorant sick, or reprimanding the drug store proprietor who allows unlicensed persons to dispense dangerous drugs — these are all in the day's work. Inspectors work out of Jacksonville, Tampa, Miami and Tallahassee enforcing the Uniform Narcotic Drug Law, the Medical Practice Act and the Pharmacy Laws of Florida. 1950 showed a 25 per cent increase in the number of narcotic violation arrests as compared to 1949. Herewith, is a summary of activities for 1950:

Total number open inspections	2292
Total number investigations	890
Total number arrests	99
Total number violations corrected where no legal action was taken	44
Aggregate sentences imposed by the courts 114 years, 10 months, 3 days	
Aggregate fines imposed by the courts	\$7,800.00
Total number defendants receiving probation, deferred, withheld or suspended sentences	29
Total number cases discharged or nolle prosequi by the courts	11
Total number narcotic addicts confined to State or Federal institutions for treatment	8
Total number cases resulting in an acquittal by jury	3
Total number miles driven	113,646
Total number bonds estreated	\$500.00



Preventable Diseases

Preventable diseases — a big subject — but before we begin to discuss some of those we have in Florida, let's pick out some of the high lights in the 1950 Annual Report. There has been a general decrease in many of what we call "communicable diseases."

The number of cases of diphtheria dropped more than 50 per cent in comparison with 1949, from 206 to 98 cases.

There were 3 cases of leprosy reported in 1950, though there was none in 1949.

Typhoid and paratyphoid fever continued to decrease, only 43 cases being reported during 1950.

Poliomyelitis jumped up from 282 cases in 1949 to 471 cases in 1950.

There was more whooping cough in 1950 than there was in 1949.

Typhus fever showed a decrease in that only 34 cases were reported during 1950.

The venereal disease control program in Florida shows that real progress is being made. In 1950, 10,738 cases of syphilis were reported and while this is a large number, it is a drop of 13.1 per cent over 1949. Part of this decrease may be attributed to the fact that there are over fifteen persons in the State who are engaged solely in tracing cases of venereal disease and their contacts. They are constantly endeavoring to educate these people and the general public on the subject of the danger of venereal disease. The Rapid Treatment Center at Melbourne, which is maintained by the State Board of Health for the treatment of persons with venereal diseases, treated 4,464 patients during 1950. In 1949 there were 7,037 admitted. Part of the decrease is due to the fact that they were treated locally rather than sent to the Center. One of the excellent functions of the Rapid Treatment Center is the educational campaign that is carried on there during the entire time the patient remains within the institution.

REPORT OF IN-PATIENT CARE — SUMMARY BY COLOR AND SEX — RAPID TREATMENT CENTER

Melbourne, Fla.

COLOR	MALE	FEMALE	TOTAL
WHITE	253	220	473
NONWHITE	1,951	2,040	3,991
TOTAL	2,204	2,260	4,464

During 1950 the number of deaths by cancer increased. It is believed that this increase is probably due to the fact that there are more diagnostic and treatment facilities; however, there may be some increase in the incidence of cancer because of the large number of older people who are coming to Florida. Cancer Treatment Centers were maintained in Jacksonville, Miami and Tampa. Diagnostic Centers were maintained in Tallahassee, Gainesville, Pensacola, Ocala, Lakeland, Orlando, St. Petersburg, West Palm Beach and Ft. Lauderdale. All these clinics are operated by private physicians in these cities. They are financed by the State Board of Health with some assistance by the American Cancer Society, Florida Division. State aid is given to those patients for whom there is hope for recovery. 1,663 persons who had cancer were given State aid in 1950. The cost of caring for them was \$192,668.02.

Industrial Hygiene is also a responsibility of the State Board of Health. During 1950, 202 visits were made to 150 industrial plants. Twenty-four studies of potential hazards were completed. Improvements were recommended in 177 cases and 9 improvements were effected. Of the recommendations made, 144 were concerned with the operation of shoe-fitting machines. Much educational work and study was done on parathion, which is rapidly increasing in use as an insecticide on citrus, truck and tobacco crops. This valuable substance is also a severe nerve poison and must be used with caution. A pollen study was begun with 21 pollen traps in operation from Key West to Pensacola. Constant cooperation is maintained with the Florida Industrial Commission, and with County Health Departments. Complaints concerning pollution of the air are constantly being studied, such as cement dust from a large plant which was being deposited on a nearby residential area.

Another phase of preventable diseases is that concerned with veterinary public health. This is extremely important because so many diseases of animals can be transmitted to man. Some of the activities listed will show the range of our problems. For instance, bovine tuberculosis showed a decline in 1950 with 93,516 cattle being tested and only 34 reactors. Rabies — 438 animal heads were examined, and 38 were found positive. Extensive studies were continued on creeping eruption. Surveys were made to determine the prevalence of Salmonella infections in dogs in Florida. These infections cause out-breaks of food-poisoning in human beings. Constant efforts were made to promote higher standards in meat inspection.

The activities of the State Health Officer (which are innumerable) and his administrative staff, and those of the Bureau of Finance and Accounts are not herein discussed.

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All counties in Florida have organized county health departments except
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Through epidemics, wars, depressions, prosperity stands the State Board of Health — to uncover health hazards formerly unrecognized, to change tactics as our concepts of disease change, and to try, as far as possible, to help make optimum health available for all Florida citizens.

The background of the cover is a black and white photograph of the State Board of Health building. The building is a large, classical-style structure with a portico supported by several tall, fluted columns. The words "STATE BOARD OF HEALTH" are inscribed on the pediment above the columns. The sky is cloudy. A large, stylized script word "Florida" is written across the top of the image, partially overlapping the building and the title box.

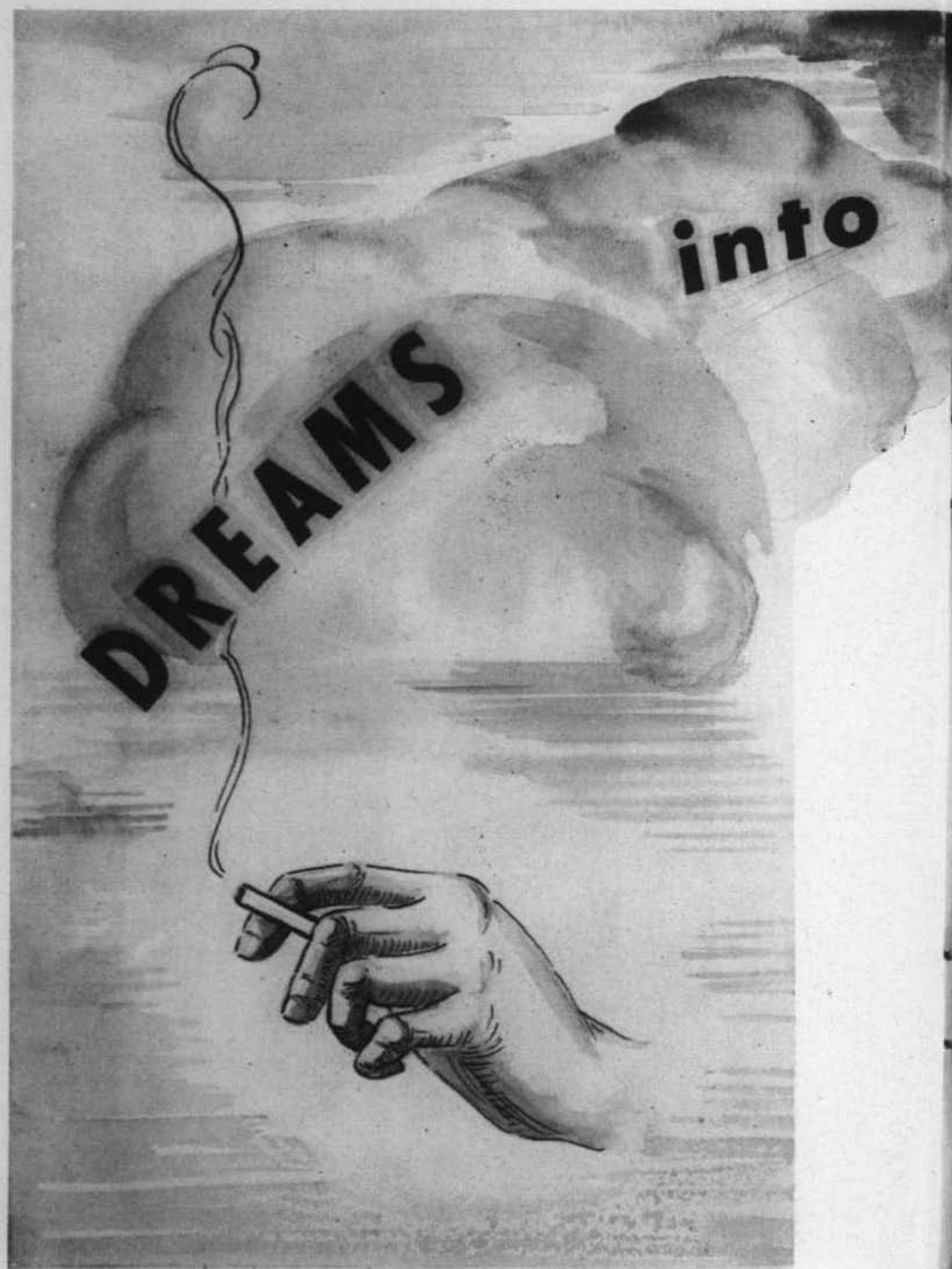
Florida

HEALTH NOTES

SEPTEMBER
1951

DREAMS INTO NIGHTMARES

Vol. 48
No. 7



NIGHTMARES

The use of narcotic drugs forms one of the greatest paradoxes ever to muddle the mind of man. Rightly used, many of the narcotic drugs prove of incalculable benefit to humanity, in easing the sometimes unbearable pain of illness and injury, helping nature in her task of restoring damaged tissues. Wrongly used — and there's the paradox — narcotics can degrade, cripple, and even kill.

Narcotics form an important part of the pharmacist's stock. The doctor finds many uses for them in treating patients. Because of their undeniable pharmaceutical value, narcotics are here to stay — until some better substitute as a pain-killer and medical aid is found.

How to suppress the bad narcotics and how to keep the good narcotics under proper control so that they may be applied in the healing arts is one of the most important jobs of the Florida State Board of Health. For that agency is charged by Florida law with overseeing the narcotics traffic, wiping out the evils of the trade and seeing that such drugs are dispensed and used properly.

From the *New York Times* — July 2, 1951.

Speaking on Mrs. Eleanor Roosevelt's television program, Harry J. Anslinger, Federal Narcotics Commissioner, singled out California, Florida and Pennsylvania as the only States where the local narcotic enforcement agencies were adequate.

FLORIDA HEALTH NOTES

Published monthly except July and August on the 5th of the month by the Florida State Board of Health. Publication office, Jacksonville, Fla., headquarters of the State Board of Health. Entered as second class matter, Oct. 27, 1921, at post office, Jacksonville, Fla., Act of Aug. 24, 1912. It is intended primarily for individuals and institutions with an interest in the state health program, public and private. Permission is given to quote any story. Clippings of quotations or excerpts would be appreciated.

Specific authority and responsibility for the enforcement of the narcotics regulations is contained in Florida's Laws. Specific directions are given for the legal handling of narcotics and other kinds of drugs, and states in Chapter 398.21 that:

"The State Board of Health, its agents, inspectors, officers and representatives, and all peace officers of the State, and all prosecuting attorneys, shall enforce all provisions of this chapter, except those specifically delegated, and shall cooperate with all agencies charged with the enforcement of the laws of the United States, this State, and all other states relating to narcotic drugs."

How does the Florida State Board of Health meet this responsibility? Through the operations of its Bureau of Narcotics. The bureau consists at this time of M. H. Doss, with 21 years of service, as Director; four inspectors employed by the Bureau, and one police detective assigned by the City of Jacksonville Police Department for full-time duty with the bureau. Those men, together with two office clerks and a State Board of Health chemist, who works part-time on narcotics analysis, form the narcotics-control agency.

Not all of these agents are assigned to the Jacksonville headquarters. Branch offices are operated in Tallahassee, Tampa and Miami.

Fortunately, this small number of agents works with and finds ready cooperation with other local, county, state and Federal officers in the enforcement of State and Federal laws regarding the distribution of narcotics and the suppression of illegal traffic in these dangerous drugs. It is an unending battle in which the law enforcement agencies welcome the assistance of all those who can help to curb and eventually stamp out the drug traffic which threatens the peace, welfare and safety of all citizens.

But before we begin to talk about the evils of drug addiction, let us acknowledge the great debt that mankind owes to the *legitimate* use of some of the opiates. From time immemorial man has searched, and is ever-seeking for new and better drugs to dull pain and make more comfortable those who suffer day and night. For these sufferers drugs such as morphine and codeine are an ever-present blessing and may be used safely under a physician's direction. Incidentally, demerol which was introduced about six years ago has proven to be as habit-forming as Morphine, although when introduced it was thought to be non-addicting.

Florida's great problem is not the smuggling in of drugs from outside states and countries, but legal narcotics diverted to boot-leg channels.

Most Dangerous

What are the dangerous drugs and what do they do to people that make them so dangerous? There is considerable difference of opinion as to WHICH drug is the most dangerous. But in the opinion of Inspector Doss, marijuana is potentially the most vicious and the most treacherous. Why?

"Because, marijuana smoking doesn't seem as dangerous as it really is. Because of that, many persons — and especially teenagers in search of a thrill — are likely to try out a cigarette to get first-hand knowledge of its effects. Once committed to marijuana, the victims are more likely to be led to other forms of addiction which ruin the health, destroy moral values and sometimes end in early death."

This issue of FLORIDA HEALTH NOTES will be confined to the narcotic drugs which give the most trouble. They are opium, and the principal drugs which come from it, such as morphine, heroin, paregoric and laudanum; cocaine, derived from the coca leaf; marijuana, derived from the Indian hemp plant, (the scientific name for which is *cannabis sativa*), and the barbiturates, the latter widely employed in so-called "sleeping pills," and for other limited uses.

We have already stated that the use of marijuana is regarded by some law-enforcement officers as potentially the greatest drug menace facing the public today. Marijuana is produced from a variety of the hemp plant which can be grown in widespread areas of the world. From its resin-loaded fibers is produced the stuff of which marijuana is made. Scientists say that the resin produced by the plant is the intoxicating agent. Plants grown in a warm, dry climate produce the greatest concentration of resin.

"The use of Marijuana is always an abuse and vice in the strictest sense of the word. So far as this drug is concerned, there is no medical indication whatsoever that will justify its use in the present day and age, as is the case with opiates."

"Marijuana in Latin America"

Pablo Osvaldo Wolff, M.D.

These resin-impregnated fibers are gathered and chopped up or finely ground. In this state they may be smoked in cigarettes, the most common practice, or in pipes. The smoke, deeply inhaled into the lungs, creates the narcotic effect within the human system.

Some find the first experience with a marijuana cigarette ("reefer") distasteful or downright repulsive. Others continue the practice. They soon make the discovery that the one or two cigarettes which have so potent a power for the beginner soon lose their effect as the human system grows accustomed to marijuana and that more and more cigarettes are required to get the "kick" or narcotic effect. Since these cigarettes are always expensive, then comes the problem of how money is going to be obtained to buy the supply needed to satisfy the ever-increasing need. Petty thievery, often beginning with the stealing and selling of articles from their own families, helps to keep them in



A household teapot here serves as an indispensable part of a marijuana water pipe. The bottle held at left is also rigged to serve as a water pipe.

enough money to buy the cigarettes. Other crimes, more serious may follow as the addict has no moral sense when it comes to means of obtaining drugs.

What effect does the marijuana narcotic have on the user? Definitely bad, say veteran narcotics control officers.

"It puts you in a 'high' state of mind. By that, I mean that as long as marijuana holds its effect, the victim is traveling 'out of this world,' so to speak. One of its most dangerous aspects, to me, is that it seems to destroy caution and the fear which keep most people from 'acting up' or being guilty of anti-social behaviour. It has a definite tendency to emphasize behaviour traits. If the smoker is of an easy-going, friendly disposition, he is likely to continue that way under the influence of the drug. If he harbors any resentment or ill-will toward anything or anybody — there you have a person who is likely to explode into violent and often homicidal activity, for no apparent cause.

"You have heard stories of people who seemed to 'go crazy' for no apparent reason. Marijuana addicts have killed people and destroyed property, have even inflicted injuries upon themselves, in the course of a violent outburst."

Florida already has a classic example of that sort of behaviour in Victor Licata of Tampa. Licata, while under the influence of marijuana in 1933, slew his father, sister, mother and two brothers with an axe while they lay sleeping.

There have been others in this State and elsewhere. Take the case of the brawny man who walked into the city police station at St. Augustine and proceeded to try to "take the place apart," attacking policemen just as the watch was changing. He smashed chairs and other furniture, and in an excess of rage hammered his fists on walls until they were a bloody mass. Police officers had to resort to violent means to subdue him. Later, after the marijuana spell wore off and the victim could talk rationally, it was found that he was nursing a grievance against the police department for what he considered an unjust arrest a few weeks before. The marijuana gave him a heightened feeling of injustice committed, wiped out his feeling of fear and caution and spurred him into the behaviour of a madman.

Take the case of the two young marijuana-smokers in a western state. One night, under the influence of the drug, they at-

tended a "wild west" motion picture. The "shoot 'em up" scenes in the movie excited them. They went home, obtained a shotgun, returned to the theatre and parked their automobile where it commanded the entrance to the theatre. When the show ended



M. H. Doss, Director, Bureau of Narcotics and Dr. Wilson T. Sowder, State Health Officer, look over the results of a marijuana raid.

and theatregoers started filing out, they opened fire, wounding or killing a score of people.

Marijuana grows readily in many parts of Florida. In past years narcotics officers have been especially anxious to locate these illegal beds, and many have been destroyed. Most encouraging news to narcotics officers is that the price of a marijuana cigarette has jumped from the 15 or 20 cents it cost a few years ago to as much as two dollars today. And today's product is less than half the size of the less costly model of earlier years.

"We hope," says a narcotic inspector, "that the price increase indicates that marijuana cigarettes are becoming harder to obtain. It's the old law of supply and demand — operating in our favor. We hope eventually to make it so costly that nobody will want to take a chance with the marijuana business. But we know from experience that as long as people still will take a chance with marijuana, there likely will be someone who will seek to supply that need. Education in the evils of narcotics will help to eliminate the use of marijuana, while continued strict enforcement of the narcotics laws will work to eliminate the peddler."

The Bureau of Narcotics of the Florida State Board of Health states that as far as can be determined at the present time there is no addiction of high school students in Florida to any habit-forming narcotic drugs.

Shall We Teach About Narcotics?

There is a great deal of controversy today about whether or not the subject of narcotic addiction should be taught in our high schools. There are those who say that to do so is to bring the subject more forcibly to the minds of impressionable youth, and lure those to try a marijuana cigarette or a heroin capsule who might not have thought about it before. The other side states, just as vehemently, that to suppress the facts is to make the whole subject of narcotic addiction a mysteriously enticing affair, and to glamorize what is essentially a sordid, heart-rending condition.

We take no sides in the above controversy. But the Florida State Board of Health believes that its duty is to inform the readers of HEALTH NOTES concerning the situation in Florida. As to public school education, the following law is self-explanatory:

231.09 DUTIES OF INSTRUCTIONAL PERSONNEL. — Members of the instructional staff of the public schools, subject to the rules and

regulations of the state board and of the county board, shall perform the following functions: (509) (1) **TEACHING.** — Teach efficiently and faithfully, using the books and materials required, following the prescribed courses of study, and employing approved methods of instruction, the following: the essentials of the United States constitution, flag education, including proper flag display and flag salute, the elements of civil government, the elementary principles of agriculture, *the true effects of all alcoholic and intoxicating liquors and beverages and narcotics* upon the human body and mind, kindness to animals, the history of the State of Florida, conservation of natural resources, and such additional materials, subjects, courses, or fields in such grades as may be prescribed by law or by regulations of the state board and the county board in fulfilling the requirements of law; provided, that state and county school officials shall furnish and put into execution a *system and method of teaching the true effects of alcohol and narcotics* on the human body and mind, provide the necessary textbooks, literature, equipment, and directions, see that such subjects are efficiently taught by means of pictures, charts, oral instruction, and lectures and other approved methods, and require such reports as are deemed necessary to show the work which is being covered and the results being accomplished.

Stuff That Dreams Are Made Of

To the gardener cultivating her small poppy bed full of varicolored blooms, this plant is a pleasant addition to the floral beauties of her yard. But to those familiar with the evils of narcotic addiction, the poppy plant — the variety which produces opium — is classified as one of the most helpful, yet most dangerous, plants to man.

For it is from a variety of poppy, known as the opium poppy, that such things as opium, morphine, heroin, codeine, laudanum and paregoric, are derived. The milky juice from these plants, subjected to various treatments and refining, produce the basic opium from which a number of products, all narcotic drugs, are derived.

All these drugs have their good uses. Properly prescribed by a physician who can check the reaction on the individual user, and dispensed by the ethical pharmacist, all these drugs can be tremendously beneficial to the sick and injured, and those in pain. But — and this is significant — they are all carried on the pharmaceutical list of poisons, for continued use or overindulgence can poison the patient.

WHAT YOU CAN DO TO HELP

Many citizens, and particularly the parents of teen-age children, have asked how they might help to curb the illegal sales of narcotics. Since the small staff of the Bureau of Narcotics of the State Board of Health needs all the help it can get from responsible citizens, it welcomes such assistance and offers the following suggestions:

1. Report any suspicious activity to the nearest agent of the Bureau of Narcotics immediately.

2. Do not attempt to investigate yourself, except in cooperation with a narcotics agent. Drug sales are big business and it might be dangerous.

HEADQUARTERS AND BRANCH OFFICES THROUGH WHICH AGENTS MAY BE REACHED:

Jacksonville, State Board of Health, day phone: 4-0161; night: 4-3396.

Miami, Courthouse Building, day phone: 9-0553; night, 7-7013.

Tallahassee, Caldwell Building, day phone: 2-5839; night: 2-0396.

Tampa, 1301 Florida Avenue, day phone: 2-3013; night, 33-6841.

"It is an indisputable fact that every day that passes sees immense quantities of narcotics and stimulants thrown on the market through channels legal and illegal. The demand is kept alive by bad examples, fads and also by purely commercial interests. . . . The community is therefore fully justified in fighting . . . these substances. In fact, it is the very duty of the community to wage this fight."

"Narcotics and Drug Addiction"
Erich Hesse, M.D.

At this point we should mention another drug — cocaine, since it is both medically useful but potentially as dangerous as morphine or any other derivative of opium itself. It comes from the leaf of the coca plant and is a frequent cause of drug addiction.

The Facts

Do you want to know how drugs can enslave you, and what they will do to you in the process? Medical men and toxicologists have figured that after daily use for a period of several weeks — usually a month — the dope habit usually has a good grip on users of morphine, heroin or cocaine, a grip which is tightened with further regular use.

Victims of the dope habit can be spotted easily by those trained to look for the symptoms. The victim's health suffers, his skin gradually turns pale and lifeless, the tongue becomes "furred" or coated, largely as a result of a disorganized digestive system. The skin becomes irritated, leading to scratching. Deprived of his normal dose of narcotic, the victim may develop almost uncontrollable fits of sneezing. His eyes run water, giving the appearance of silent crying. His mental faculties and moral sense becomes impaired. The victim becomes gradually more irresponsible. He neglects personal interests for the increasingly urgent task of obtaining the ever-growing amount of narcotic necessary to prevent demoralization and physical collapse.

The victim gradually moves into a constant state of mental depression which is relieved only by more and larger doses of the drug which holds him more firmly in its power.

All narcotic products derived from opium and from the coca leaf are tightly controlled by state and federal law, with one exception — paregoric. In Florida it is still possible to buy paregoric, which contains a small percentage of opium. The purchase, however, is confined to one ounce per day and the customer has to sign a register, giving his name and address. Laudanum, a form of "liquid opium," which many addicts took by mouth in the free and easy days of little or no regulation, is strictly controlled, and has been largely supplanted by the hypodermic injection of other narcotics in legitimate medical channels.

Two classes of people likely to become narcotic addicts are:

1. The "sensation seekers," those in search of a thrill or those who ape ultra-modern "fashion" fads.
2. Those who have used drugs for medical purposes and who either:
 - a. Acquire the habit from too many regular injections taken for illness or injury. Some people are so constituted that they become addicts more easily than others, much as

some people are more easily disturbed by alcoholic beverages than hardier, better-balanced folk.

- b. Those who yearn for narcotics to ease a troubled mind or diseased body. Once having found relief from physical or psychic disorders, they return for relief to something that in the long run brings only more trouble.

Psychologists and psychiatrists, specialists in mental and emotional disorders, believe there is a strong psychic factor in drug addiction similar to a craving for liquor. Such people find temporary relief from nervous instability or anxiety states in the use of narcotics. For these people, however, narcotics are most dangerous, for the weak will or disturbed mind that sends them seeking the treacherous comfort of dope will make it only the harder for them to break off the habit once it becomes firmly fixed. By far the largest percentage of those who fail in taking the cure, or suffer a relapse are these disturbed people who sought narcotic relief in the first place.

An Old Story

Hundreds of books and millions of words have been written about the evils of narcotics since first these dangers were really appreciated. But the most notable, perhaps, of all literature on the subject was penned nearly 150 years ago by Thomas DeQuincy, an Englishman who lived in the days before control methods were thought necessary or advisable.

In his book, *Confessions of an English Opium Eater*, DeQuincy tells of how he fell into the opium habit as a university student, to ease the pains of illness, and of how he continued to indulge after the physical pains were gone as a prime source of sensual pleasure. What began as a carefully planned weekly journey into the beautiful dreamland induced by dope, soon became a habit which took a mighty surge of willpower and tremendous physical torture to break off.

DeQuincy's book is important for another reason: he used the "tapering off" method, or cure, which is still the most effective way of pulling away from the binding tentacles of the narcotic habit. He tells of having taken as much as EIGHT THOUSAND DROPS PER DAY of laudanum, which contains a relatively high percentage of opium. As he realized how firm a hold opium had upon him, DeQuincy began his own cure. He speaks of reducing his dosage to 170 to 180 drops per day, with occasional 500-drop doses to ease the cramps caused by the reduced intake.

"I went off under easy sail," says he, "130 drops a day for three days. On the fourth day I plunged at once to 80 drops. The misery which I now suffered 'took the conceit' out of me at once, and for about a month I continued off and on about this mark. Then I sunk to 60, and the next day to — none at all. This was the first day for nearly ten years that I had existed without opium. I persevered in my abstinence for ninety hours; that is, upward of half a week. Then I took — ask me not how much: . . . Then I abstained again: then took about 25 drops; then abstained; and so on.

"Meantime the symptoms which attended my case for the first six weeks of the experiment were these: enormous irritability and excitement of the whole nervous system; the stomach in particular restored to a full feeling of vitality and sensibility, but often in great pain; unceasing restlessness night and day. Sleep — I scarcely knew what it was; three hours out of the 24 was the utmost I had, and that so agitated and shallow that I heard every sound that was near me: lower jaw constantly swelling: mouth ulcerated: and many other distressing symptoms that would be tedious to repeat. . . . However, I must mention one, because it never failed to accompany any attempt to renounce opium — violent sternutation (sneezing). This now became exceedingly troublesome; sometimes lasting for two hours at once, and recurring at least twice or three times per day. I was not much surprised at this, on recollecting that I had somewhere heard or read that the membrane which lines the nostrils is a prolongation of that which lines the stomach. . . . It is remarkable also that, during the whole period of years through which I had taken opium, I had never once caught cold nor even the slightest cough. But now a violent cold attacked me, and a cough soon after. . . .

". . . It seems as though all the thoughts which had been frozen up for a decade of years by opium, had now, according to the old fable, been thawed at once; such a multitude stream in upon me from all quarters. Yet such is my impatience and hideous irritability that, for one which I detail and write down, fifty escape me. In spite of my weariness from suffering and want of sleep, I cannot stand still or sit for two minutes together. . . ."

DeQuincy's observations on catching cold and developing a cough as he sought to break away from opium is interesting. For one of the things which the narcotics victim has to fear is pneumonia — one of the reasons why addicts should be hospitalized when taking the treatment.

Doctors And Druggists

Narcotics offer a peculiar peril to doctors and pharmacists. The peril is peculiar in the sense that they have easy access to narcotics in the very nature of their work — and of all men they should be in a position to appreciate the perils of narcotics addiction. Yet, occasionally, these men, for all their professional training and highly-developed ethical sense, become narcotics victims themselves. But state and federal controls are so carefully designed that it is a rare if not impossible thing for doctors and pharmacists to "get away" with illegal uses of narcotics for more than a short period of time.

That is one of the reasons the State Board of Health's Bureau of Narcotics is charged by law with the enforcement of the medical and pharmacy laws, in addition to its duties in the strictly narcotics control field. This Bureau must certify physicians and others of the healing arts and pharmacists who handle narcotic and other type of dangerous or poisonous drugs. Without the narcotic stamp issued by the bureau, it is practically impossible for a physician or pharmacist to practice his profession.

Most of the infractions by this highly ethical group of men are honest errors and they are happy to cooperate with enforcement officers in bringing their records up-to-date.

However, occasionally one of these men will succumb to temptation, as the case records in the Bureau of Narcotics show without question. Let's pull a case record out of the files. In this manila file folder is the story of a pharmacist in a South Florida city — the story of how he yielded to temptation, how he suffered and paid for his mistake, and of how he made a successful comeback in his chosen field.

Because he fought and won a courageous battle against narcotics addiction and worked his way back into his profession we will refer to him as Case 555, by which he is known to the Bureau.

The story began nearly ten years ago. No. 555 began taking morphine because of illness and to help him stand the long and tedious hours behind the prescription counter. At first he took from the stock at the store where he was employed. Then, as he realized his stock was getting dangerously low, he persuaded a pharmacist employed at another store to supply him with more morphine. Eventually came the day when neither shortage could

be hidden. The pharmacist fled to a sanatorium in Jacksonville with the intention of beginning his own cure. But his accomplice was arrested. Acting on confidential information, inspectors in the Bureau of Narcotics arrested him. He pleaded guilty and was sent to Raiford State Penitentiary, where he obtained treatment for narcotics addiction. Upon his release, he was assisted in obtaining employment. No new notations have been added to the file folder in several years. Case No. 555 appears to be closed — successfully.

This Is More Serious

The case of No. 555 is the story of a man who was his own worst enemy. The following story will be known as Case 886, because this man was apparently an amateur who got caught before he could do much harm. No. 886, an ordinary businessman, arranged to have cocaine smuggled into Jacksonville aboard a ship plying in and out of this port. He made his first big mistake with his initial contact. The contact wanted no part of drug smuggling, so the Bureau of Narcotics was drawn into the case.

Evidence must be airtight to obtain conviction, so the agents laid their plans carefully. An agent was brought in from outside Jacksonville to follow up the tip.

Arrangements were made to buy some cocaine from No. 886. Marked money was passed and the drug changed hands. The deal was closed on a downtown street. The drug peddler thought he was safe. But two men moving casually toward him from different directions took a sudden interest in him when they reached the two figures standing on the sidewalk. Suddenly confronted with three narcotics inspectors, one of them a federal agent, No. 886 surrendered and later supplied information — as much as he apparently had — concerning the source of the drug he was attempting to sell. The agents added his information to what they already had against that day when they hope to “close the book” on somebody else higher up.

He Wanted To Buy A Bicycle

Men sometimes do an extraordinary thing for the most ordinary of reasons. Such is the story told by “Charlie” who acted as wholesaler in the marijuana trade before agents of the Bureau of Narcotics put him out of circulation for a while. After Charlie was taken into custody on charges of violating the narcotics laws,

one of the agents asked him why he ever went into such a risky business.

"My son and my nephew wanted a bicycle," he replied simply, "so I decided I would sell a little (marijuana) so I could buy them one."

Whether he ever bought that bicycle is not a matter of record, but the fact that Charlie got three years in Raiford penitentiary is definitely down in the file. It was the urge for profit that got Charlie into trouble. Narcotics agents had suspected he was a "wholesaler" of a growing marijuana selling ring here, but he was hard to catch. Snaring his "pushers" or salesmen was a little bit easier. Agents held off on the salesmen, however, in hope of landing the bigger game. Finally one of the agents made a contact, with a story designed to catch the big fish along with the little fish. After the agent had purchased a small quantity of marijuana cigarettes and other narcotics from one of his salesmen, the agent complained about the price being too high and asked to deal with the "head man" on an order for 500 marijuana cigarettes. The agent offered 50 cents each for the cigarettes. The prospect of the big profit hooked the salesman. He offered to contact the "head man." The profit on a \$250 order must have looked attractive to the "head man." In little more than half an hour, he appeared on the scene and fell into the trap ready and waiting for him.

"Caught with the goods" and the evidence airtight against him, Charlie confessed. He received three years in Raiford State Penitentiary for violation of the narcotic laws. The book may be closed on Charlie but his file folder remains in the records, waiting to see if he means to stay away from drugs.

Barbiturates Can Kill You, Too

It was about two o'clock in the morning when the ambulance crew rolled the unconscious woman into the hospital emergency room. The interne, summoned from his bed after a busy night sewing up accident victims and repairing "drunks," looked at the empty glass vial the ambulance driver held out, examined the attractive brunette and said disgustedly:

"Just another sleeping pill case. Why will they be such fools to take that stuff?"

The pulse was barely discernible. She was treated and put to bed. Day after day she received food solution through her veins. Once they gave her a whole blood transfusion to see if that would help revive her.

Finally she awoke. "What time is it?" she wanted to know.

"You don't need a clock," said a nurse, "you need a calendar. You have been asleep eight days."

She insisted that it wasn't a matter of a love affair gone wrong or anything like that — just a case of trouble on the job. She had started taking "sleeping pills" a few months previously, and had been gradually increasing the dose. On the night when she came so dangerously close to wafting herself into what some addicts refer to as the "big sleep" she had left the nearly full bottle on the bedside table. In a drowsy state she had reached for the bottle — she couldn't recall how many times. But the container was empty. That indicated she had taken far more than the safely-prescribed dose.

Barbiturates are classified as powerful and dangerous drugs and should be *taken only under doctors' orders*. Take the case of epileptics; preparations containing barbiturates, taken just before the onset of a seizure, can often halt an attack or make it less severe but some people react violently to large doses and deep loss of consciousness may result — and even death. Barbiturate victims also are more susceptible to broncho-pneumonia.

Addiction Cures Are Possible

If you somehow have come under the influence of a narcotic drug, what are your chances of recovery? How and where can you be treated? How much will it cost?

Here are two places where treatment may be obtained. One is at Raiford State Prison Hospital. Once you sign on for the cure, you cannot get back out again until you are pronounced cured. Under state law, you can be forcibly confined if necessary until the treatment is completed. There is no charge if you are unable to pay. If you can pay, you are expected to bear part of the cost of treatment.

It must be stressed that those who go to the Raiford State Prison Hospital voluntarily do not have any criminal record

against them when they leave. They must stay three months in the hospital and they cannot leave before the end of this period. The hospital has been fairly successful in getting many off the drug for indefinite periods. It is regrettable that the hospital can house only three or four voluntary patient addicts at any one time.

The hospital operated by the U. S. Public Health Service operates somewhat differently. This institution is at Lexington, Kentucky. Information concerning admission to the Federal hospital may be obtained by writing the Surgeon General, U. S. Public Health Service, Washington, D. C. Patients are expected to pay a small share of the treatment cost if they are able to do so. Patients are free to leave before the treatment is completed. If they do, however, they forfeit the right to be readmitted for a full year.

If the habit is firmly fixed upon the victim, the "tapering off" treatment can be terribly painful and nerve-wracking. That is why early treatment is advised. The longer one waits, the more he becomes "run down" physically and the more fixed the habit becomes. Early treatment, as in many other illnesses, assures less trouble and eases the task of returning to normal life — free of the drug habit and ready for a new start. Unfortunately, the narcotic addict rarely musters the strength to voluntarily give up his habit. Nor has he any comprehension of the seriousness of the consequences of his affliction.

If I had ever been tempted to take drugs I would have discarded the idea quickly after having worked on a hospital ward for drug addicts for the past two years. There can be no torments of the damned that can exceed the agonizing pain that a drug addict must go through in order to get rid of the habit. In the first place, many of the addicts who came to us didn't really want to be rid of the habit — they merely wanted to reduce their daily dosage because it was so expensive.

All our patients entered the hospital ward voluntarily but since they were not released until they were completely off the drug, it was a pitiful sight to watch them. The first day they were bolstered up by their friends' and relatives' good wishes and had mustered up every ounce of will power that the drugs had left them. By the second or third day all will power had left them as the dosage of the drug was slowly reduced, and they became abject, tortured, screaming idiots as their nerves begged for the drug. Every effort was made to divert their minds: a good recreation and occupational therapy program was planned; the barber visited them frequently to keep them well-groomed. Massage and hydrotherapy played their part.

When they left us at the end of three months, they were convinced that they were cured. Yet we heard through the grapevine that many returned to the drug habit. The sociologists tell us that the reason they do so is that they return to the bad environment from which they came, take up old friendships, or that they simply cannot face the world and its problems and so retreat into a dream world — in which their dreams of a minute are turned into everlasting nightmares.

(A former Staff Nurse in a Hospital accepting drug addicts.)

The Problem Today

Newspaper dispatches tell us of the mounting toll of youthful drug addicts. The New York City investigations this summer have shocked us. We read that there is much illicit traffic in drugs between this country and Italy and Turkey, and that Red China recently offered for sale 500 tons of opium on the world market. Truly the illegal narcotic traffic is a vicious, commercial racket which lives on the debasement and slow murder of its customers.

Florida has a total of six inspectors in the Bureau of Narcotics of the Florida State Board of Health. It is amazing that such a small number of men have dealt so successfully with what could be potential dynamite. It behooves us, as Florida citizens, to do our part in guarding our children and our friends from the evil by knowing the truth about habit-forming drugs.

From the 1950 Annual Report of the Bureau of Narcotics of the Florida State Board of Health

There has been a 25 per cent increase in the number of narcotic violation arrests as compared with 1949. The indiscriminate use of the barbiturate drugs has reached an alarming state. More than 50 per cent of the complaints received by this Bureau are, upon investigation, found to be barbiturates rather than narcotics. Barbiturates, not being classified technically as narcotic drugs, do not come under the enforcement of this Bureau.*

The tables of activities carried in this report are confirmed by individual case reports permanently on file in this office.

TOTAL SUMMARY OF ACTIVITIES

Total number open investigations.....	2,292
Total number investigations.....	890
Total number arrests.....	99
Total number violations corrected where no legal action was taken.....	44
Aggregate sentences imposed by the courts... 114 yrs., 10 mos., 3 days	
Aggregate fines imposed by the courts.....	\$7,800.00
Total number defendants receiving probation, deferred, withheld or suspended sentences.....	29
Total number cases discharged or nolle prosequi by the courts.....	11
Total number narcotic addicts confined to State or Fed- eral institutions for treatment.....	8
Total number cases resulting in an acquittal by jury...	3
Total number of miles driven.....	113,646
Total number bonds estreated.....	\$ 500.00

*Regulation of the use of barbiturates comes under the State Department of Agriculture

DATA ON MARIJUANA LEAF (See Back Cover Page)

Enlarged drawings of (1) seeds, (2) male flower, (3) female flower. The hemp plant (*Cannabis Sativa*, L.) is an annual growing each year from the seed. It has an upright stalk which attains a height of 3 to 16 feet — usually 4 to 6 feet tall; with compound palmate leaves which have 5 to 11 leaflets or lobes, usually 7; 2 to 6 inches long and about one inch wide.

The State Board of Health

1217 Pearl Street or P. O. Box 210

JACKSONVILLE, FLORIDA

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Governor of Florida

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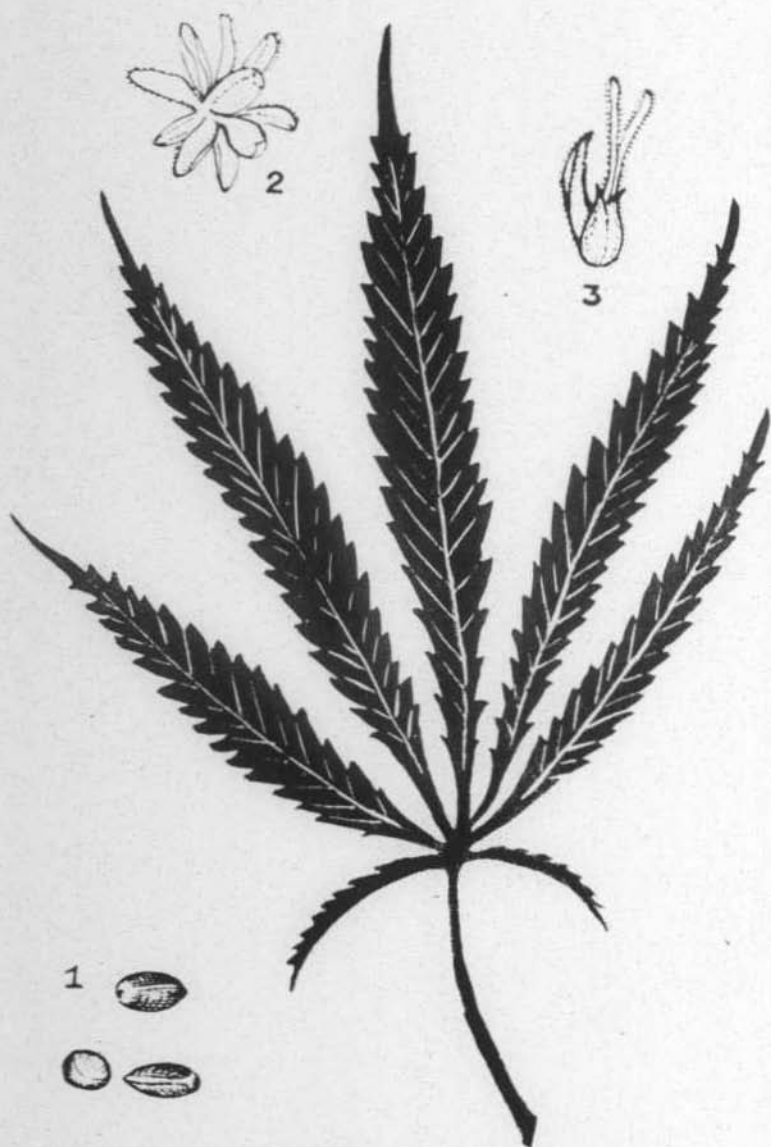
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All counties in Florida have organized county health departments except
LEE, ST. JOHNS and COLLIER COUNTIES

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THE MARIJUANA (CANNABIS SATIVA) LEAF (Actual size)
(See inside facing back cover page)

The background of the cover is a black and white photograph of a grand, classical-style building with several tall, fluted columns supporting a pediment. The words "STATE BOARD OF HEALTH" are inscribed on the front of the pediment. A large, dark rectangular box is superimposed over the upper part of the image, containing the title "HEALTH NOTES" in white, bold, sans-serif capital letters. Above this box, the word "Florida" is written in a large, elegant, white script font, with the letter 'F' extending down behind the box.

Florida

HEALTH NOTES

OCTOBER
1951

HEALTHY HOMES

Vol. 48
No. 8



Beautiful and home-like.
But - - -
is it healthy?

HEALTHY HOMES

To Begin With . . .

One of the greatest thrills of a lifetime is the first time you move into a home of your own. A man feels like he amounts to something when he buys a house. He and his wife are much happier planning their future in a home of their own. All of us have many memories of the house we lived in as children. It's not hard to see what the man meant who said, "A man's home is his castle."

A home is one of the biggest investments the average man makes. If he does not make large investments in his business, his home is probably the largest single investment. Usually it means a mortgage which involves a large part of his past, present and future earnings. You have probably gathered from all this that building or buying a home is a serious proposition. It is!

Such a move deserves much study and investigation. Most of us wouldn't think of tying up ten to twenty thousand dollars without thoroughly going into what we are buying. So if you expect to spend the rest of your lives in this new home, be sure you are not getting a "lemon."

You may decide that the little place over there on the edge of town is the one to buy. It's close to a school, there is a shopping center about a quarter of a mile away and a bus runs right by the door. The construction is good brick veneer and there is a nice lawn. So you sign the papers and move in.

Your wife soon informs you that there isn't anybody collecting the garbage. The first big rainstorm the place is flooded and the septic tank overflows. The children all get sick and the doctor suggests you have your water tested. The report comes back that your well is contaminated. Now you are in a mess! (We find this story repeated many times with variations). Giving a little thought to the health aspects of your house before you bought it would have saved you all this. It's just as important to know how close the sewer line is as how close the school is. That is why in the following pages we suggest a few things to look for in a house (before you buy) that will help protect your health.

Waste Disposal

We all know that when human wastes are not properly disposed of we have a lot of bad smells and sights. Hardly anything is more annoying in our present day civilization than an overflowing sewer or toilet. When difficulties of this type are not cleared up they become very real dangers to our health. Many diseases are transmitted from person to person by means of bowel discharges. Some of them are typhoid fever, dysentery and hookworm infestation. Far too many cases of these diseases occur in Florida even today. Some health authorities believe that the dreaded infantile paralysis (polio) is also spread in this manner. Certainly we cannot be healthy if we are exposed to insanitary conditions in our homes.

There are many good ways of disposing of this dangerous and unpleasant material. One of these is the sanitary pit privy. This little building has been the subject of many jokes. It has also been called a mounment to improved public health and is still contributing much to the health of country home-owners. It is still the best possible solution to sewage disposal for many rural homes. It must be built properly, however, or it will do more harm than good. It must be absolutely fly proof. Flies are attracted by body wastes and transport small particles of it from sick to healthy persons, thereby causing disease. The privy must be built where it will not contaminate sources of drinking water or bathing areas. The pit should be of the right size. The structure should be built to last, with a floor of concrete. **Every county health department in Florida has a trained sanitarian who can give you information and plans for building a good sanitary privy.** He will be only too glad to help you if you will call at the health department.

Where running water is available most folks have a bathroom. If the house is in the country or some other area where the bathroom cannot be connected with a public sewer system, we must find some other way of disposing of the sewage. A good way to do this is by means of a septic tank. A good septic tank is a concrete underground chamber or vault constructed in such a manner that heavy particles in the sewage are settled out. This must be connected to the house by a tightly jointed drain pipe. Leading away from the tank is a system of drain tiles laid in the ground with open joints. This allows the sewage to seep into the ground. This takes care of it safely. A septic tank which is well built and prop-



This familiar structure — a sanitary pit privy — is still one of the bases of good health in rural areas



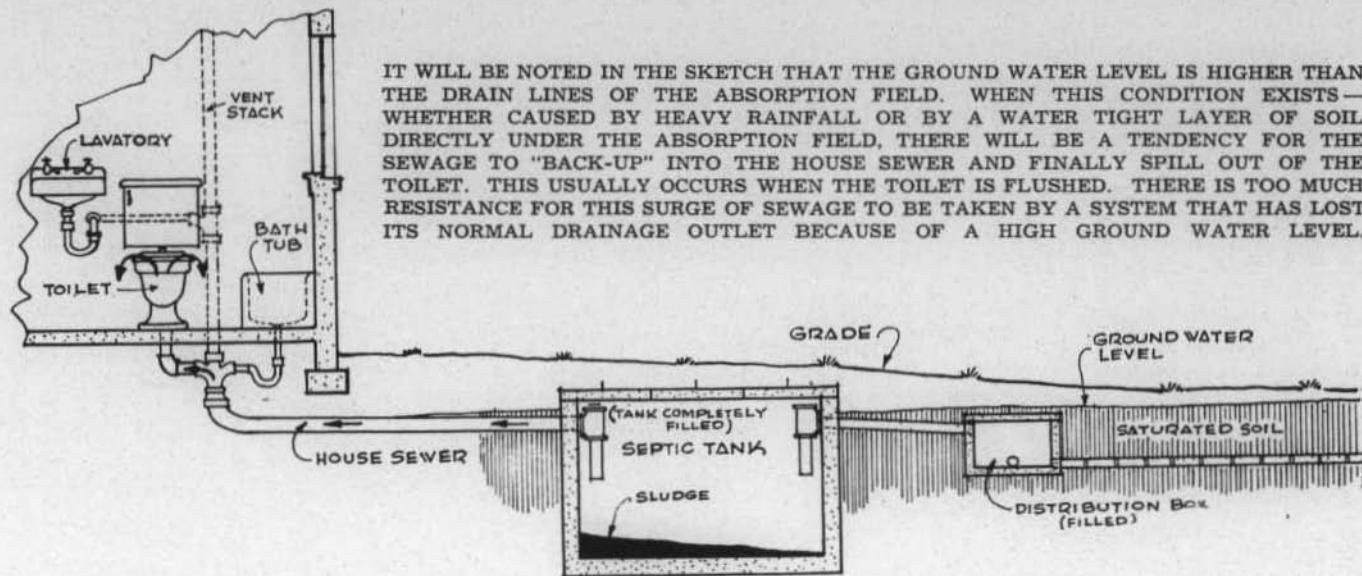
A sanitarian from the County Health Department gives some expert advice on how to build a septic tank

erly taken care of is a great safeguard to health. A septic tank that is not properly built and is not cared for may become dangerous and cause disease as well as becoming odorous and most unpleasant. The Federal Housing Authority and Veterans Administration requires the septic tank installed for a house to be approved by the State Board of Health before they will process a loan. **All county health departments will gladly give assistance on approved plans and specifications for building and caring for a good tank.** They will also investigate the soil where the tank is to be built to see if it is suitable for a septic tank. In Florida this is very important.

While the above described two types of equipment may be fine for many home owners, there are places where they cannot be used. This is particularly true where there are many houses, such as around cities. Too many septic tanks in an area overload the ground, with the liquids flowing from the tanks, and even though each tank is properly constructed, it will fail to work properly. They may contaminate drinking water, bathing areas, drainage water, and become definite menaces to health. Over a period of years a public sewer connection solves your problem much better than a septic tank.

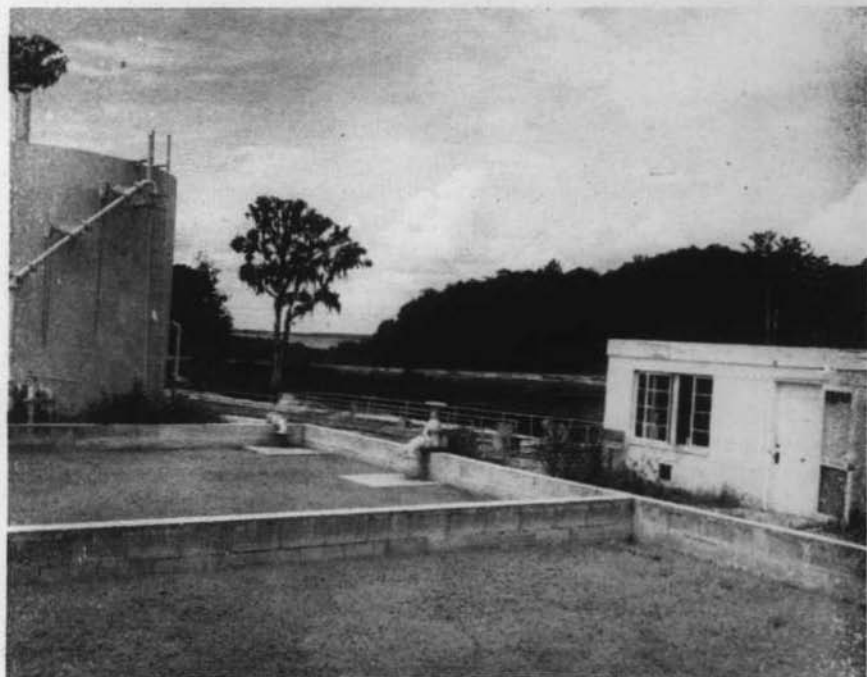
Florida is undergoing a lot of growing pains. There are about 46% more people in Florida now than there were 10 years ago. This is the third highest population gain of any state in the nation. A great number of these people have settled around our cities. While all the cities are trying to keep up with this great number of new arrivals, there are still many areas in and around them which do not have sewers. Many town and city sewer systems are being found wanting in the face of their increase in population.

There are other things in Florida which make the job of a public health engineer hard. The land is practically all low and flat. About 70% of the people in Florida live in areas which are less than 25 feet above sea level. You don't have to dig very deep in Florida to get water. This condition is called a "high water table." It means the soil has about all the water it will take. Here in Florida we have one of the highest rainfalls of any section of the country. This gives us many beautiful trees, flowers, lawns and truck crops but it does not help us dispose of our sewage. Often-times these rains come in heavy showers and we must contend with poor drainage leading to great collections of water in many places. In areas where these conditions are particularly bad we can expect to have trouble from septic tanks and privies. They simply will not drain into ground full of water. This should be kept in mind when we are planning to buy or build our home.



In order to understand this problem a little better, it might help to know just what it is we are trying to dispose of. Sewage from the average collection of homes consists of about 99.9% water. The body discharges make up a great deal of the solid material, but there are also large amounts of paper and other types trash in with it. In some areas where the new garbage grinders are used we will find a certain amount of kitchen wastes including soaps and greases in the material. All together this makes quite a mess. As long as it stays underground and out of sight the average home owner gives little thought to it. When the sewer line or septic tank becomes clogged or for some other reason works badly, then we are faced with a very bad situation which can't be ignored.

Most of us, if and when we think of a sewer system, think of pipes, leading from the house to — where? There's more to it than that. Before the sewage reaches the plant (if there is a sewage treatment plant), it must go through a system of pipes. Any defects in this collection system will also make for a dangerous situation. The pipes must be of proper material. Sewage may sometimes



A modern sewage disposal plant for a housing development outside one of our larger cities

become quite acid and will dissolve some pipe materials. The system must be put in with proper engineering skill so that it will drain properly. The pipes must be put together so they will not leak. Here in Florida we have trouble with our sandy soil leaking **into** sewer systems as well as water leaking **out**. Then the line becomes blocked with sand. There must certainly be no cross connections with the water supply. Sometimes city fathers build a sewerage system with no eye on the future. Great increases in city population then lead to great overloading of the system. An overloaded system will not work properly. It will back up into your house and leak out through manholes or even bubble up through cracks in the street.

Public health engineers have worked on the problem for many years and have found many ways of taking care of the sewage from cities. They have developed equipment and methods which can treat the sewage and keep it from becoming a nuisance. They can do anything from merely removing the solid material to making it almost safe to drink. The greatest part of the material and bacteria can be taken out. The engineer attempts to make the city sewage sufficiently safe to dump into whatever body of water may be available for the purpose. Where this is the open ocean away from shore only a small amount of treatment may be required but where it is a small stream the discharge must be almost pure water. (Unfortunately, we still have cities who dump raw, untouched sewage into streams).

This is accomplished by several well worked out processes. The material from the sewers must be first screened to take out large particles and then it is sent through tanks or basins where the heavier suspended material is settled out. After this it may be either filtered through such materials as sand, filtered over rocks or have air pumped through it. The solids are put into tanks for purposes of digestion by bacteria. The final process employs the addition of chlorine. When it leaves the area of a well-planned, well-operated treatment plant it will be neither a nuisance nor a health menace.

The proper maintenance of the whole system is very important. We cannot build a sewage treatment plant and then forget about it. The well trained operator is very important to the continual good functioning of the plant. The University of Florida and the State Board of Health work together to provide training for water and sewage treatment plant operators. The employment of a well trained operator will be repaid many times over.

If you are about ready to buy or build the little white cottage



There's more to a sewage disposal plant than meets the eye

of your dreams, how can you know if it will be protected by proper disposal of the sewage? **The first thing to do in every case is to check with your county health department.** It is their job to know the situation with regard to sewers, septic tanks and privies in your county. They will always be glad to help you. You should be particularly careful if you are planning to buy or build in or around our large cities. The health department can also be of great help if you are already owner of a home where a bad situation has developed. If they cannot solve your problem they will call in specially-trained engineers from the State Board of Health.

Many times the health department needs cooperation of the home owners to correct bad situations. Community cooperation on sanitary facilities is helped by a system known as a "Sanitary District." This makes it possible for persons living in areas not served by public sewers, to form an organization which can finance, build and operate a sewage disposal system and collect sewer service charges to pay for it. In three counties, Duval,

Hillsborough and Escambia this is made possible by a county-wide law. In two counties (Pinellas and Palm Beach) only specific areas are allowed to construct systems. Your health department knows of the situation in regard to such a law in your county. There should be a state law for this purpose. Then the benefits could be available to all citizens of Florida and many bad situations could be remedied.

In other instances, such as in Tallahassee, the areas surrounding the cities have found a solution to their problem by having their community incorporated into the city. This is often more satisfactory since existing city governments have established credit necessary for financing construction jobs of this type. However, remember that the city system must be able to take on the added load. Some municipal sewerage systems are already carrying all they can.

Water

One of the natural resources that Americans have and use to a greater extent than any other nation is water. Water is necessary for life and certainly is necessary for running a household. Other



It takes heavy machinery to insure healthy homes. Sewer pipe is being laid

important uses are fire protection, industrial uses and watering of lawns, shrubs, flowers and other plants. If we are to have so many uses for water it is necessary to have a large supply of it and that a sufficient pressure be maintained. Many cities have become endangered by low water pressures during dry summer months. Be sure to investigate the water supply in an area where you are planning to build or buy a house.

Our water must not only be plentiful but if we are to use it for drinking, bathing and the like, it must be sanitary. Impure water can cause the same diseases that untreated sewage can cause. We also like to have our water clear in color and with a good taste and smell. Here in Florida, for instance, we frequently find water sources which contain a lot of gas called hydrogen sulfide which gives the water an odor of rotten eggs. Some water supplies have microscopic plants in them which will give a variety of tastes, some good and some bad.

Florida's underground water is fortunately very plentiful. Our soil is underlain with porous limerock. This limerock is frequently honeycombed with underground caverns or channels through which water runs. This water may be coming from sinkholes or drainage wells which are drawing dirty surface water. There is also a possibility of rain water washing in from around barnyards or privies. In some instances actual sewage may be found entering these underground streams. Such a situation must be constantly guarded against as it would be very injurious to health. With a little study and care, however, it is very easy to find a plentiful supply of very excellent water.

We have to find some way of getting the water out of the ground and into our house. As with everything else, there is a good way and a bad way to do this. All wells should be completely covered so that there will be no dripping back into the well when the pump is used. The pump installed should be of a force type. The old pitcher pump should be seen only in museums. Most wells in Florida are of the drilled type with metal pipe casing. The tops of these wells must be protected from surface water or any other type of contamination.

How do we go about being sure that the water supply for our house is going to be sanitary? If we are building we will try of course to have our house connected with the city water supply or some type of public system. If this is not possible, we should then secure the services of a good well driller. **Again we should contact the county health department for information on how to obtain a good supply of pure water.** The sanitarian can give infor-

mation on a source of water that is already in existence or advise you on obtaining a new one. He can also help in the choice of a good well driller as he is familiar with most of them in a community. When the well is drilled he will obtain samples of water by a proper method and have them analyzed by the State Board of Health laboratory. Since water is so important to health, the State Board of Health by law must approve all public water supplies. A public water supply is considered to be one that serves more than 25 persons.

Here again the Sanitary District Law will be of great help in obtaining water for families who are living close together. It can make possible the building and operating of an approved water system. The county health department or State Board of Health can give all information desired by communities wishing to start such a system.

Garbage

Something else that Americans have more of than any other nation in the world is garbage. It's supposed to show how prosperous we are! Visitors from other countries are amazed at the amount of garbage coming out of the average American home. But the disposition of this large amount of garbage creates many problems. Where it is not handled satisfactorily it will attract and support large numbers of rats and flies. Rats not only do a great deal of property damage but carry diseases such as typhus fever. As you well know, garbage when it ages has a very unpleasant odor and certainly is not very pretty to look at.

In Florida this problem is handled by several types of systems. Most cities have municipal garbage collection service. Towns and areas around cities frequently have a system wherein a private collector is given a franchise by the county or town government. The county commissioners may in turn supervise the operation of this system in order to secure proper service. In other areas the garbage may be collected only by private individuals under no supervision and usually poor service is the result. These persons may be interested only in getting enough garbage to feed their hogs and collections may be infrequent and sloppy.

There are several ways of disposing of the garbage after it is collected. Private collectors, or scavengers, usually feed it to hogs. If the garbage is not cooked before being given to hogs, it may cause the spread of trichinosis and parasitic diseases of hogs which can spread to man. Some cities have built large incinerators which burn the garbage and trash at the same time. What is

left over from burning is then taken out and buried. But the most satisfactory method of garbage disposal is by means of the sanitary land fill. For this purpose a low area is usually selected, though in some instances excavation may be done. The garbage is then dumped into this area and covered daily with at least 18



A pleasant rural scene, but that pitcher pump is dangerous

to 24 inches of soil. This is neither complicated nor expensive and may have the secondary result of filling in a lot of low land. There must, of course, be some bulldozers or other earth-moving equipment available, but this is practically all the equipment that is necessary.

There are several things that the average home owner can do to see that his garbage is properly disposed of. The first thing is to secure proper garbage cans. These must be stoutly built so that they can survive being thrown on and off garbage trucks. They must have a good, tight-fitting cover so that rats, hungry dogs and the like cannot tip over the can and spill the garbage over the lawn. **If the garbage collection is not satisfactory, it is certainly advisable to again call on the health department for advice.** Here again the Sanitary District Law can be used to great advantage since it also includes disposal of garbage.

Mosquitoes

Our subtropical climate and rainfall gives us many beautiful tropical flowers and trees, but it also gives us large numbers of mosquitoes in some parts of the state. Certainly no other thing is better qualified as a first class pest than this little insect.

The mere presence of mosquitoes has a great effect on the value of land. Nobody wants to live, work or play in an area where they are constantly bitten by swarms of mosquitoes. Certain types also carry diseases — malaria, yellow fever, dengue (break bone) fever and a type of the dread encephalitis or brain fever.

In Florida the mosquito finds four principal places in which to raise his family. One, the salt marshes, produces a particularly vicious little pest. The fresh water marshes also produce good crops of mosquitoes. The flat dry areas, which were once rivers and even now fill up with water during a wet season, are well supplied with mosquitoes at times. While the area is dry the mosquito's eggs remain alive. When the area is flooded or even dampened the eggs hatch into swarms of insects. These areas also have certain types of trees and plants which can grow either on dry land or in water. Some of these are cypress trees, arrow-head and pickerel weed. If you find these plants in a low flat area you can expect it to produce mosquitoes during a rainy season. The fourth favorite mosquito-breeding area is our beautiful fresh water lakes with bushes and trees growing in and around them. They are wonderful spots for fishing but also are well liked by mosquitoes. Look around your proposed home for areas like this. Never build or buy anything other than a fishing camp in them.

Another hint about the type of country: watch for low lying areas with poor drainage. Many of them will be safe most of the time. At other times, however, you may have trouble. As you may have heard, Florida has quite severe storms at times, even hurricanes. These are always accompanied by much rain. If your house is in a low area you may find yourself with water running through the living room.

There are several points which should be followed in order to keep mosquitoes away from our family and ourselves. We should be sure our home is not built in areas as described above. We should be sure there are no tin cans, rubber tires, and the like scattered around the yard to collect rain water, as mosquitoes like to breed in such articles. If we have cisterns or water barrels, they should be tightly covered so that the mosquito is discouraged from raising his family in them. The edges of ponds and lakes should be kept free of brush which gives the partial shade that the mosquito likes so much. The house should be well screened since this keeps out not only mosquitoes but flies and other insects. The screen should be of a grade that will keep out the smaller mosquitoes. It should be 16 squares to the inch both ways; this is known to the hardware dealer as "16-mesh" screen. The screen



A drainage ditch like this makes home-loving mosquitoes unhappy

should be put on wooden frames which fit well into the doors and windows with no cracks or holes. If we pay attention to all these points we stand a good chance of being bothered very little by mosquitoes.

The health department can again be of very great service in guarding against these pests. They can give advice as to the mosquito population in an area. In some instances they can help out by spraying during certain seasons of the year. They can also advise as to how the mosquito can be discouraged from living in the same area with you. This may be accomplished by such things as drainage and filling of low swampy areas or by general cleaning up. A similar system to the sanitary district has been set up by law for the whole State of Florida and is known as the Mosquito Control District. The State Board of Health has responsibility for advice and technical assistance to these districts and the system has been very successful. Not only disease-bearing mosquitoes but the pest mosquito can be controlled through this cooperative endeavor. **Here again your health department can advise you as to the status of mosquito control in your area.**

Accidents

You may be amazed to know that a very large proportion of accidents occur right at home. In 1950 in Florida 43 per cent of all accidental deaths that were not caused by motor vehicles occurred in the home. It has also been estimated that about 1/3 of the non-fatal but crippling accidents occur in the home. Health departments are taking more and more interest in this fact and are finding out a lot about accidents. The home owner should take advantage of this information in order to protect his family and himself as much as possible.

The types of accidents which occur in the home are many — falls, burns, electrocutions, suffocations. These are all very unnecessary and a very large proportion of them could have been prevented. This prevention in many instances could have taken place at the time the house was built.

Amateur electrical wiring is the cause of many accidental deaths. The improperly wired plug, switch or appliance, or one which has the insulation worn off can place enough current into your body to put an end to all your troubles. This is particularly true if you have a foot or hand in water or are grasping a water tap at the time. Improper electrical wiring can also cause bad fires. Poor lighting in a house can lead to bad falls. One good thing to do to prevent this type of accident is to carefully plan



More housing developments, more people, more sewage disposal and pure water problems

your wiring and have your work done by someone who really knows his business.

Many times fatal accidents are caused by children falling out of windows and sometimes even adults have been known to do this. It is advisable for window sills to be at least 30 inches from the floor. This is particularly true around stair landings. Stair steps should be uniform with a slope of from 30 to 36 degrees. The step itself should be no less than seven inches high. There should be a well built handrail available along stairs. Good lighting is of great importance. Very bad falls can occur on stairs and these precautions will prevent a lot of them.

The most dangerous room in the house is the kitchen. The slippery, wet floors often cause disastrous falls. Defective plumbing and hot water tanks sometimes lead to very bad scalds. Unguarded, open flames are always dangerous and should be kept away from such things as flapping curtains, wastepaper baskets and the like. Equipment closets which are too small and hence are overloaded with greasy mops, floor polishes and other inflammable material will also cause fires. Gas stoves should be carefully watched for leaks and should never be placed where they

will be in a draft. Gas stoves in which the flame has been blown out are particularly deadly. Electric switches should not be placed near the water tap or sink. They should have nonmetallic cover plates and insulating links somewhere in their construction.

Slippery, wet floors are also a hazard in the bathroom. They should be a little rough so that wet feet will not slip. The bottom of the bathtub should also be ribbed and there should be handholds in a convenient place near the tub to prevent falls. Here again the electric switches should be placed away from the water sources.

Another favorite way that people have of killing or crippling themselves is by falling on, or from porches. This is particularly true with older folks. Weak or worn porch railings should be guarded against as well as defective steps that are not equipped with good handrails. The usual type of architecture in Florida nowadays does not include porches but this should be kept in mind in buying older houses. In any event, light your porch or entrance steps well. It will help to prevent accidents and give your house a more hospitable atmosphere.

A very important consideration if you have children is to build or buy your house away from heavy traffic. Cities usually direct heavy traffic away from residential areas but this is not always possible. The safest place to have your house, if you have children, is on a deadend street. Have as large a yard as possible so they won't have to play in the street.

The cost of building a house is, of course, very high. We don't always get what we want in a house or what we should have. When building, however, we should attempt to provide as much privacy to each member of the family as possible. This contributes to better mental health in many ways. It is certainly worthwhile when building or buying a house to try and figure in that extra bedroom.

Rats

Most folks have all they can do to raise their own children and maybe take care of an aged mother. They cannot afford to also raise a family of rats. The rats wouldn't mind, of course. They like the houses that humans build and the food they eat. If you don't take care they will move in on you whether you want them or not.

Rats are expensive. They destroy property and spread disease. Typhus fever and bubonic plague are two of their special-

ties. They have even been known to attack small children. You definitely don't want them in your house.

What can be done to keep them out? They try to get in the hollow walls. They can do this by crawling between the floor and the sills of the house, through the holes where pipes and electric wires enter the house, around louvers and the like. All these holes must be built out or stopped up. This also applies to other buildings on your place such as the garage. A rat is always interested in food and shelter. Keep garbage cans covered, clean up around the house and he will not find enough food. Keep him out of the house and he will look somewhere else for shelter.

Your county health department will be glad to talk to you about rats. They can make suggestions as to rat proofing and also on how to get rid of rats if they are present. They can guide you to competent pest control operators who can solve your rat problems. (For further information on rats, write us and ask for the May 1951 issue of Health Notes on "Rats — Common Enemy.")

Windup

We have given you our advice as to what you should think about when building or buying your home. Do not get the idea that Florida is an unhealthy place to have a home. On the contrary, we are very proud of our constantly-improving health record. Any state that grows as fast as Florida has will have the same problems. Most of the things we have talked about occur in other parts of the country. The things that are peculiar to Florida are just penalties for the many good points of our state. For example, what makes life pleasant for humans makes it pleasant also for pests. But with careful planning all the hazards listed can be avoided.

The one main point we would like to make is **"use your county health department."** There is one now in 64 of the 67 counties in Florida. Their job is to help you to better health. The people who work in them have training and experience in the subjects we have talked about. If they can't handle your problem they will bring it to the State Board of Health. Together we can work out a solution. It is better to call on them before you get into trouble, but they will be happy to help you out of a dilemma, also.

Good luck to you in getting your house. When you are settled may we stop by and visit with you for a few minutes? Thanks. Be seeing you — in a healthy home!

CHECK LIST FOR A HEALTHY HOME

1. HEALTH DEPARTMENT

Know location and personnel and check the following problems with them.....

☐

2. WATER SUPPLY (check one)

a. Connection with approved system.....

☐

b. Private system recently inspected and approved by County Health Department.....

☐

c. Well recently inspected and approved by County Health Department.....

☐

3. SEWAGE DISPOSAL (check one)

a. Connection with approved public or semi-public system.....

☐

b. Septic tank recently inspected and approved by County Health Department.....

☐

c. Sanitary privy recently inspected and approved by County Health Department.....

☐

4. GARBAGE DISPOSAL (check one)

a. Municipal collection.....

☐

b. Satisfactory private collection.....

☐

5. MOSQUITO PROTECTION (check all)

a. Land well drained.....

☐

b. No swamps, lakes or ponds with vegetation in or around them.....

☐

c. Windows and doors well screened.....

☐

d. Cisterns, water barrels, etc., well covered.....

☐

6. RAT PROTECTION (check all)

a. Entrance of utilities into house tightly fitted.....

☐

b. Louvres screened with hardware cloth.....

☐

7. ELECTRICAL WIRING (check all)

a. Installed by competent electrician.....

☐

b. Switches away from water sources.....

☐

c. Sufficient lighting on stairs and in hallways.....

☐

8. GENERAL (check all)

a. Stairs properly built and provided with railings.....

☐

b. House away from heavy traffic.....

☐

The State Board of Health

1217 Pearl Street or P. O. Box 210

JACKSONVILLE, FLORIDA

HON. FULLER WARREN

Governor of Florida

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All counties in Florida have organized county health departments except
LEE, ST. JOHNS and COLLIER COUNTIES

FLORIDA HEALTH NOTES published by Florida State Board of Health since 1892

FLORIDA HEALTH NOTES

Published monthly except July and August on the 5th of the month by the Florida State Board of Health. Publication office, Jacksonville, Fla., headquarters of the State Board of Health. Entered as second class matter, Oct. 27, 1921, at post office, Jacksonville, Fla., Act of Aug. 24, 1912. It is intended primarily for individuals and institutions with an interest in the state health program, public and private. Permission is given to quote any story. Clippings of quotations or excerpts would be appreciated.

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WATER ?
SEWAGE DISPOSAL ?
DRAINAGE ?



HEALTH NOTES

STATE BOARD OF HEALTH

NOVEMBER
1951

SAFE SEAFOOD

Vol. 48
No. 9



SAFE SEAFOOD

Farmers of the Sea

Have you ever looked at the map of Florida and noticed the length of its coastline? This coastline is one of the greatest in the world for farmers of the sea. Seafood farmers include all of the fishermen who bring us foods from the sea. Florida's seafoods are many and varied and include many varieties of fish and the famed Florida lobster, crabs, clams, bay scallops, shrimp and oysters. Just as the land farmers work with governmental agencies, aquatic farmers work with other governmental agencies to aid in the production of more food from the sea. In this state our aquatic farmers work principally with two state agencies—the Florida State Board of Health and the Florida State Board of Conservation. Both agencies strive to provide more food and better protected food from the sea for the people of the state.

And while we're concerning ourselves about the circumstances under which some of our seafood is produced, let's not forget how delicious—and nutritious—the different varieties are. In this issue of HEALTH NOTES we'll discuss oysters, crabs, scallops and clams. And much of our discussion will center on . . .

Oysters

Florida is famed for the fine-tasting oysters it produces. They belong to the same family of oysters which live all along the Eastern Seaboard of the United States and which is known to the biologist as the *Crassostrea virginica*.

Anyone familiar with oysters knows that they have two shells; thus the oyster is known as a bi-valve. The Florida oyster lives in a mixture of fresh water and salt water, so we always find it growing in salt water near the place where a fresh water stream flows into the salt water.

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A good oyster farmer returns small oysters to the water.

In order to understand some of the problems of aquatic farming with oysters, it is well to know the life history of the oyster. This begins in the warm weather months, those whose names do not contain the letter "R." When the temperature of the water rises during the warm weather months, the oysters begin to propagate. The female oyster throws thousands of small eggs into the water and the male oyster throws millions of sperm into the water, and after a chance meeting of these products new oysters begin to develop.

The new little oyster is a fragile being and is a larva which is not unlike a small worm in the water. It swims and feeds for several days and begins to grow. It cannot swim far or long, and as it grows it begins to form a small shell. When the shell gets too heavy, it sinks to the bottom. This usually happens within several weeks after its start in life.

When the young oyster falls, it attaches to some solid object. To the oyster men this is known as spatfall, and unless he gets a heavy spatfall there will be few oysters for him to harvest in the future. Once the young oyster sinks in the water and attaches, it cannot move as can almost all other forms of sea life, and spends the rest of its days feeding and growing so that some day it will grace your table.

Due probably to the high temperature of Florida waters, oysters grow very rapidly. In this state oysters will grow to marketable size sometimes as quickly as seven months from setting. In northern states this time is from three to four years.

When the oyster attaches to a solid object, it is never particular what it embraces. It may attach to another oyster, a stone, a piece of wood, an old automobile tire, a piece of glass, or any solid thing that the oysterman throws into the water for its benefit. Such things as old rubber gloves, broken bottles, tree branches and egg carton dividers (which have been dipped in mortar) are thrown into the water for the attachment of young oysters.

One interesting feature of the life cycle of the oyster is that an oyster changes sex. This year's male oyster becomes a female next year, and this year's female oyster becomes a male next year.

The oyster leads a double life:
One year, it's a husband, next year, wife.
It's both a father and a mother;
It's both a sister and a brother.
No wonder, if all this is true,
The oyster ends up in a stew!

Each year as the oyster grows it throws down a layer of shell. Thus we observe the growth of the oyster building its shell and growing larger within the confines of the shell. If the oyster finds good food in the water, it grows rapidly and forms a deeply cupped shell which permits it to grow fat within the shell. But if there is little food in the water or if it is on a bar where the tide ebbs so that it is out of the water part of the day, it becomes longer with a shallower shell and becomes known as a "coon." These oysters were probably named by someone who saw them being opened by raccoons on the shore. However, the fat oyster is the one preferred by buyers, and is usually harvested in the cooler months when the whole body of the oyster is round and completely fills the shell. During the warm months the oyster is thinner and does not completely fill the shell.

The oyster has a hard job staying alive. It pumps thousands of gallons of sea water through its body and strains out microscopic food particles from this fluid. This is a 24-hour-a-day job and if there is sufficient organic matter (food) in the water, the oyster strains out this matter and develops rapidly.

Since oysters live in a mixture of fresh and salt water, a hazard to the oyster is too much salt water which could be caused by inshore winds; or too much fresh water which could be caused by heavy inland rains. If the oyster finds that the water is not to its liking, it simply shuts its shell and does not feed as well until the right mixture occurs.

There are animals in the water which prey on oysters. Among them are the starfish, which open the oysters with their five powerful arms so that they may eat them; the conch, which also enjoys oysters; and the small marine borers which bore through the shells and feed on the succulent seafood inside. Good aquatic farming requires the removal of these parasites which kill many oysters. Fortunately, Florida's waters contain few of these parasites.

When it comes time to reap this harvest from the sea, the Florida oyster man "tongs" oysters. He goes out in his small boat and uses tongs to gather the oysters from the beds. Small boats must be used in Florida because the oyster beds are in shallow water and the tongs that the oyster men use are very much like two-hinged rakes with which he gathers the oysters from the bottom where they grow.

The oysters are usually found in small clumps and when the "harvester" gets the oysters from the water into the boat he separates the small oysters from their attachment on the larger oysters. These small oysters are returned to the water where they will grow to market size.

When a boatload of oysters has been tonged they are taken to the nearest shucking house where they are prepared for market. In the shucking house the oysters may be put into barrels or sacks and shipped as shellstock. "Shellstock" is unopened oysters which are eventually served in restaurants as oysters on the half shell. If the oysters are kept cool before they are opened, they will live in their shells for a few days and may be shipped many hundreds of miles.

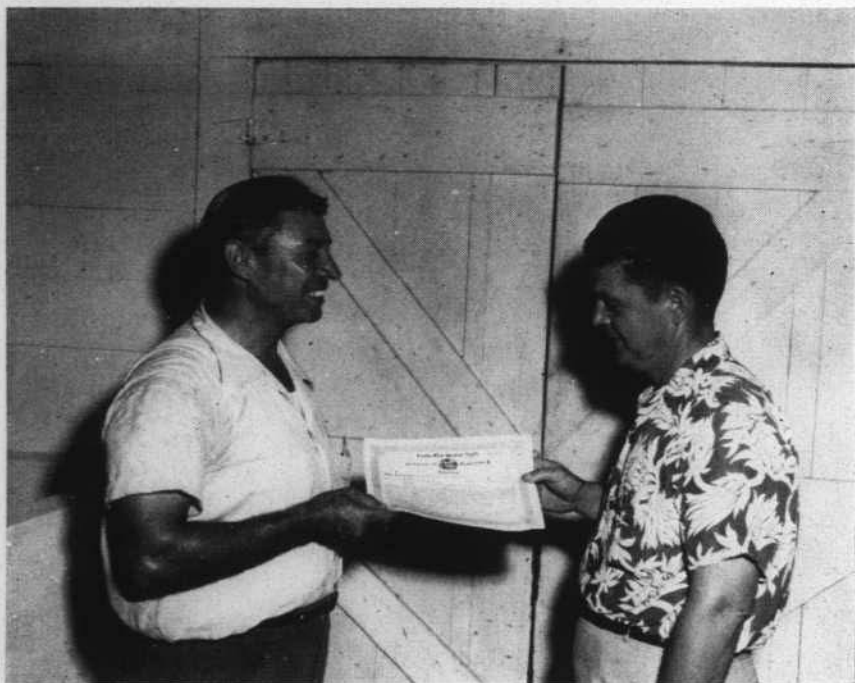




An oyster man tonging oysters from one of Florida's bays.

Most of the oysters produced in Florida are opened in the shucking houses and sold in cans as shucked oysters. These, too, if properly refrigerated, may be shipped hundreds of miles and remain in edible condition for a short time. Every can of oysters has a number printed or embossed on it. An example of this number would be Fla-363. This number should have a meaning to every consumer of oysters. It means that the oysters in that can have been produced under the most sanitary conditions and have been certified by the Florida State Board of Health. This is the best protection anyone has in buying oysters. This number is awarded to a plant only after it has met the sanitary requirements for the production of clean, wholesome, quality oysters.

How do these plants get their certification? Certification by the Florida State Board of Health is issued after repeated visits by one of the staff members who works with the industry. In Florida there is a sanitarian who devotes all his time to State-wide seafood sanitation, another sanitarian who devotes all his time to seafood work in Franklin County, five regional engineers who spend part of their time on oyster production, and a full-time laboratory technician in Franklin County.



A sanitarian from the State Board of Health presenting a certificate of approval to an oyster house operator who has met the State's sanitary standards.

Why Health Agencies are Interested in Oysters

In the early 1920's, several hundred cases of typhoid fever were found to have been caused by oysters. Typhoid fever began appearing in cities in the northeastern United States as far west as Chicago. Health Department workers in Chicago discovered that many of the people who had typhoid fever there gave a history of having recently eaten raw oysters. As more information was obtained, it was found that all of the patients who had apparently contracted typhoid from oysters had eaten the product of one oyster house which was located on Long Island Sound.

Naturally, this information was broadcast far and wide. There was emphasis on the danger of eating raw oysters. As a result, the American people practically stopped eating oysters, either raw or cooked. The oyster industry then requested health agencies to aid the industry by establishing and maintaining sanitary

standards so that all oysters would be fit for human consumption and so that people would once again wish to eat them. A program was established by which all of the states which produce oysters work together in maintaining the sanitary quality of this seafood. Since that time, oysters have grown in popularity. From being a food formerly enjoyed only by a favored few, they have become a national dish.



Taking samples of water from oyster beds to insure that oysters are taken only from approved waters.

Unfortunately, human wastes from some of our towns and cities are not treated before they are discharged into streams and into bays and bayous. As a result, these waters become polluted. Extensive surveys by the Bureau of Sanitary Engineering of the State Board of Health have shown that these areas are unsatisfactory for oyster culture and these areas have been condemned for oyster gathering. Lists of these areas are published and are available from the Bureau. To aid in protecting the health of the people and to make sure that they do not gather oysters from these polluted waters, the agents of the State Conservation Commission, as a part of their duties, patrol these areas to warn people against gathering oysters from these several areas. This has been a successful program. To date, no cases of typhoid have appeared in people who have eaten oysters produced and packed by certified oyster houses. However, a number of people have gathered oysters themselves from polluted areas, eaten them, and have contracted typhoid.

All people are cautioned when they buy oysters to ask what the source of the oysters is. All cans of oysters are stamped with the permit number of certified houses, as well as the name and address of the oyster house. All oysters still in the shell are accompanied by tags giving a permit number and the name and address of the producer. *The best guarantee* anyone has of the quality of oysters is that they have been produced by a certified oyster house.

Inspection service on the sanitation of oysters begins with the water oysters grow in. Constant bacteriological surveys are being conducted on the waters in which oysters grow, and unless the water is of high quality and free from human waste, oysters are not permitted to be taken from these waters. Florida has many miles of coastline where oysters can be and are safely grown, and these continuing surveys are a protection to the public because they preclude taking oysters from contaminated water.

When the oysters are tonged from the sea bottom and transferred to the oysterman's boat, they are transferred to a boat that is built to keep contamination away from the oysters. These boats all have false bottoms which prevent oysters laying in the bilge water in the bottom of the boat. If the oysters got into the bilge water, they would feed on this polluted water.

When the oysters are taken into the shucking house, they are stored in bins which are made of concrete and which slope so that the oysters will not lay in pooled water. When the oysters are



Well designed equipment, careful handling and cleanliness all contribute to safe oysters.

shucked, they are shucked into pails that are so constructed that they may be easily cleaned. The knives that are used are also constructed for quick cleaning. Everything in the shucking house is designed to protect the oysters against contamination.

A major factor in handling oysters is refrigeration because oysters are perishable. Refrigeration is checked scrupulously to make sure that all shucked oysters are kept cold to keep them from spoiling. Actually, everything in the oyster shucking house is geared to protecting the oysters from contamination so that safe, high quality oysters will be shipped to the public. Each person handling oysters must have a health certificate issued after a physical examination which includes a chest X-ray, blood test and stool examination. All utensils and equipment that are used to handle oysters are thoroughly cleaned and then immersed in a chemical solution to kill any bacteria which might remain on them. Water supplies are checked regularly to make sure that all water is safe for drinking and thus safe for use on oysters. All toilet facilities for employees are constructed to safely dispose of human wastes.



After shucking, oysters are washed with special equipment before being packed in cases.

In the case of shellstock where oysters stay in the shell and are shipped to consumers who wish to eat them out of the shell, the oysters are kept cool and they, too, carry a certification number which shows that they have been produced and handled in a manner to keep them safe for human consumption.

An interesting feature of oyster production in the United States and Canada is that all of the States work together. There are no state barriers to prevent shipment of oysters from one section of the country to another. Each State certifies oyster

houses as we do in Florida, and this information is sent to other States so that each State may be sure that oysters shipped in are of good quality. This is an interesting and unusual feature of interstate cooperation because in many cases the State boundaries often keep food products out rather than let them in.



Florida Seafood Laboratory

To insure the good bacterial quality of the seafood from Florida, the Florida State Board of Health, in cooperation with the Oyster Division of the State Conservation Commission and the County Commissioners of Franklin County, has established the first seafood laboratory of its kind in our State. For three years, the Oyster Division has conducted research and given practical demonstrations as to the potential in seafood farming for oysters in Florida's waters. Florida's coastline is the longest of any State in the United States and it provides thousands of acres of land for farming for oysters.

The State Board of Health has provided a sanitarian who devotes all of his time to promoting better sanitation in the oyster houses, crabmeat houses, the scallop and the shrimp processing houses. With his full-time activities as well as that of another sanitarian and the bacteriologist in the new laboratory, a constant laboratory control is maintained, not only with the seafood products as they are prepared for human consumption, but with the waters from which these products are gathered.

The testing procedures in the laboratory are many and varied. Major activity is the bacteriological testing of water samples taken from oyster growing waters. This aids in insuring high quality oysters which come only from waters which are free from human waste contamination. Samples from the water supplies at the oyster houses are bacteriologically tested, as are oyster meat and crab meat. High hopes are held that the laboratory testing will be of great educational value to the seafood industry in continuing to produce high quality seafood. As an example, there are times when seafood products are contaminated in the processing houses through poor handling or dirty equipment.



In Florida's first seafood laboratory, the oyster undergoes scientific study and testing.

By sampling and testing the products all along the production lines in the houses, the laboratory can aid in establishing the points where seafood products are contaminated. Corrective measures are then taken to insure safe seafood. Several small research projects have been undertaken by the laboratory to aid the seafood industry. The sponsors of the laboratory plan to make the facilities a permanent part of agency programs in Florida to aid the seafood industry in its continuous growth.



The Board of Conservation maintains patrol boats to assure that oysters are not taken from polluted waters.

State Board of Conservation

The Oyster Division of the State Board of Conservation is primarily interested in helping the oyster man make his seafood farming more profitable. A laboratory has been established in Port Orange (as well as the cooperative one in Franklin County). Both of these laboratories are staffed by marine biologists who study conditions that affect oyster farming so that more oysters can be raised in Florida's coastal waters. In addition, studies are carried out by the marine laboratories of the University of Miami and by the U. S. Fish and Wildlife Service. All of these agencies carry on a constant program of research.

To aid in the production of oysters, certain laws are enforced by the State Board of Conservation. The major ones are: (1) Oysters must be at least 3 inches long before being harvested. (This aids in protecting the young oysters so that succeeding years will provide good crops of oysters.)

(2) Leasing State-owned beds. Since the state owns much of the land under the coastal waters of the state, oyster men may lease this land from the state to grow oysters. The State Board of Conservation makes sure that these leases on oyster beds are equitably distributed among the people.

(3) Enforcement of closed seasons. Since oysters breed during the warm weather months, the State Board of Conservation has set closed seasons during these months so that the breeding of oysters will not be interrupted and future years will yield big crops of marketable oysters.

Oysters are Good to Eat

Ever since the time of the ancient Greeks, oysters have been regarded as a real delicacy. The Greeks referred to them as "a food of the gods," and the Romans in their writings showed that they enjoyed oysters, too. In modern times, oysters have been used not only as a main dish, but their popularity as an appetizer has never been equaled.

People either like oysters — or they don't. Few people remain neutral on this subject. To the true oyster devotee, oysters on the half-shell, fried oysters, steamed oysters and oyster stew create delightful mental pictures of tasty meals. Generally speaking, oysters are beyond the budget of most low-income families



Empty oyster shells slide through chutes from an oyster house, picked up and returned to oyster growing waters.

except where people live along the coast and can gather their own oysters from clean, non-polluted waters. Here in Florida, we are close to the source of oysters and prices are more reasonable than in other sections of the country.

Why eat oysters at all? Oysters are easily digested; food value is packed in them; they are one of that group of foods which we need every day. This group of food includes meat, fish and eggs. Oysters compare very favorably with meats and fish in protein. Protein is one of the food elements generally considered essential for "body building."

Oysters are also rich in vitamins. Of the B complex vitamins, oysters have about one-third more thiamine than liver and twice as much as hamburger. Oysters also have a fair supply of riboflavin. These B complex vitamins are considered essential to the general well-being of the body. They aid good digestion and lead to stability of the nervous system.

Oysters are also rich sources of iron and copper. These elements are necessary along with protein to build hemoglobin, which makes good red blood. Unfortunately, many people in Florida show low hemoglobin content in their blood. Perhaps we should eat more oysters so we can get three of these necessary elements from a single food and aid in the building of richer blood in our bodies.



We've included two ways you can prepare oysters:

APALACHICOLA OYSTER STEW

1 qt. of oysters
1 tbsp. cracker crumbs
 $\frac{1}{2}$ pt. milk

1. Into saucepan put 1 pt. water, salt and pepper, and 1 tbsp. rolled cracker crumbs.
2. Let come to a boil.
3. Pour in the oysters.
4. Allow oysters to boil 30 seconds, not an instant more.
5. Remove from fire.
6. Pour into dish containing $\frac{1}{2}$ pt. milk.
7. Serve.
8. Never allow oysters to cook in the milk.

FRIED OYSTERS

Sarasota Style

(6 servings)

3 doz. oysters, with liquor
Cracker crumbs
Fat

1. Roll oysters in cracker crumbs.
2. Place in refrigerator several hours.
3. Dip oysters in their own liquor.
4. Roll again in cracker crumbs.
5. Fry immediately in deep fat.
6. If wire basket is not available, use perforated skimmer to remove oyster from fat.



Crabmeat

A comparatively new branch within the seafood industry in Florida is that of packing crabmeat. Florida is one of the largest producers of fresh crabmeat in the United States. The warm waters around the State seem to be just right for Blue crabs to multiply and grow to marketable size. Many residents of the State have fished for our familiar Blue crab and boiled them, picked and eaten them. To protect the people who eat crabmeat, the State Board of Health maintains the same type of inspection program in the production of crabmeat as is used in the production of oysters. All houses are inspected regularly to see that they meet sanitary standards and the sanitarians do all within their power to prevent contamination of the crabmeat.



Note the Florida number on the can of oysters. Such a number is your best insurance that you are receiving oysters of high quality.

As with oysters, all cans of Florida-produced crabmeat bear the certification number of the seafood house, as well as the name and address. The major market for our fresh crabmeat is the northeastern part of the country, more especially the states that are on the Atlantic Ocean. Florida's crabmeat is considered the tastiest produced in the eastern United States. Crabmeat can be used as an appetizer or as an entree in a meal and several recipes using this delicious seafood listed on the following page.



APALACHICOLA
DEVEILED CRAB
(6 servings)

- 2 tbsp. butter
- 2 tbsp. flour
- 1 cup milk
- 1 cup crabmeat
- ½ tbsp. finely minced onion
- 1 tbsp. Worcestershire sauce
- White pepper and red pepper to taste.
- Bread crumbs
- 2 tbsp. melted butter
- ½ cup cheese, grated

- 1. Melt butter.
- 2. Add flour.
- 3. Scald milk.
- 4. Add slowly to mixture.
- 5. Add crabmeat and seasoning, stirring constantly.
- 6. Beat until smooth.
- 7. Fill empty, well cleaned shells.
- 8. Sprinkle with bread crumbs, top with grated cheese.
- 9. Bake in shallow pan about 10 minutes in oven 500° F.

PENSACOLA
CRABMEAT COCKTAIL

- Flaked crabmeat
- ¼ cup tomato catsup
- 2 tbsp. lemon juice
- 1 tbsp. grated horseradish
- 1 tbsp. finely minced celery
- ¼ tsp. salt
- 3 drops tabasco sauce

- 1. Put the necessary amount of flaked crabmeat in cocktail glasses or sherbet cups (2 to 3 tbsp.)
- 2. Chill thoroughly.
- 3. Serve sauce of remaining ingredients.

(Crabmeat may be substituted for fish flakes in recipes which call for flaked fish.)

Softshell crabs are Blue crabs and we see them sold occasionally in markets. When the Blue crab grows, it molts and actually squeezes out of its old shell. When this happens, the crab has a soft covering on its body rather than a hard shell, and this soft covering becomes hard in about 24 hours. During this period when the outer covering of the crab is soft, the crab may be cooked and the entire crab eaten including this soft outer covering which would later become a hard shell.

To the gourmet, the finest crabmeat is the claw meat from the Stone crab. Only the meat from the claws of the Stone crab is eaten. Unfortunately, there are few Stone crabs left in the State. This raises the cost because of the scarcity of the meat and places this seafood out of the financial reach of many people.

Unlike the oyster industry, in which oysters are rarely gathered during the summer months, the production of the meat from the Blue crab is continued year-round and thus fresh crabmeat is always available to those who like this tasty seafood.



An oyster house employee receiving her health card from the local health officer following a satisfactory physical examination.

Clams

In the past, Florida produced great gallonage of clam meats. But clams seem to be rarely found in our sea waters in recent years. Clams formerly lived for the most part along the Gulf Coast of the State. In the past the business of shucking clams and providing this meat for market was a major part of our seafood industry, but the scarcity of clams in the last few years has practically shut down this part of the seafood industry of the State. When clams again appear, the State Board of Health will maintain sanitary control over the industry as with other seafood and Floridians can again enjoy this tasty seafood.

Scallops

The Bay scallop of Florida appears occasionally in great numbers. They sometimes appear every three to six years, and during these fruitful years, Bay scallops are produced in quantity. The small Bay scallop which is about as large as an unshelled peanut is not to be confused with the northern-produced sea scallop which is much larger. Only the muscle which is attached to the two shells of the scallop is used. This accounts for its small size.

Bay scallops are almost universally liked by anyone who enjoys seafoods. At the present time, scallops are available but not in great supply as this year has not been a good one for scallop production. Scallops are usually prepared by frying in the same manner as shrimp or fish. They are usually used as the main dish in a meal. Scallop production is also inspected by the State Board of Health personnel and during seasons when scallops are to be found, a rigid sanitary control is kept over their production.

Shrimp and Fish

Although no space has been devoted here to shrimp and fish, these seafoods are eaten universally and are Florida's largest seafood products in terms of pounds or in terms of dollars of revenue. Since they are always well cooked in some fashion before eating, and are handled only by the cook, they do not present public health problems.



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1217 Pearl Street or P. O. Box 210

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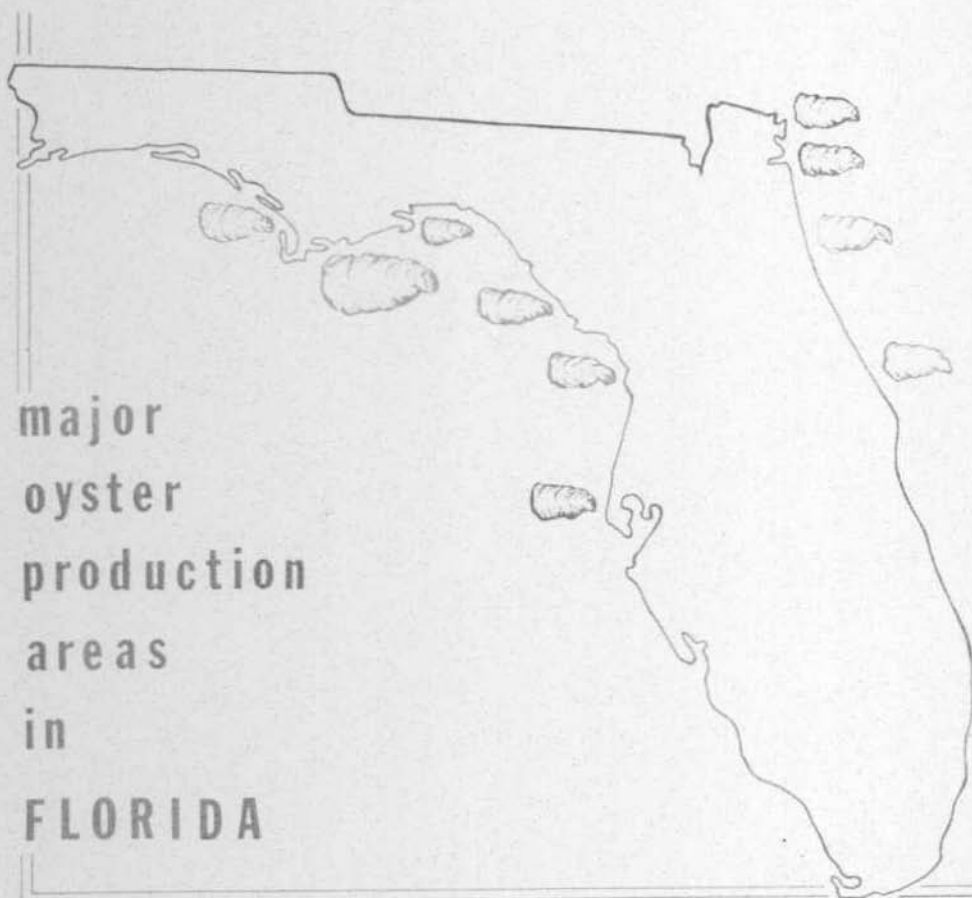
All counties in Florida have organized county health departments except
ST. JOHNS and COLLIER COUNTIES

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Public Health

HEALTH NOTES

STATE BOARD OF HEALTH

DECEMBER
1951

BORN TOO SOON

Vol. 48
No. 10



A public health nurse from the Dade County Health Department delivers a premature baby to the Premature Infant Center at Jackson Memorial Hospital, Miami. The hospital nurse and doctor are ready to begin looking after the baby immediately.

BORN TOO SOON

"It's an eight pound bouncing baby boy!" Messages like that go out over telephone and telegraph wires every day to happy grandparents and friends. But what if the baby weighs only two or three pounds and doesn't bounce? This is a baby born too soon — a premature baby. Then everybody isn't quite so happy, as this little fellow may not pull through. He and his kind are of interest to health authorities because so many of them die soon after birth. We thought you might be interested in reading some facts about premature babies and what is being done for them here in Florida.

In this day of atom bombs and rocket ships the continuing of life through generation after generation is still our highest ranking wonder. When you stop to consider, it is a pretty amazing thing for instance that a beautiful peacock can develop from a plain white egg. The most wonderful and complicated process, however, is the development of an adult human being from a small cell which can be seen only with the aid of a microscope. The first part of this process must, of course, be carried out under very ideal conditions since these small particles of life are very delicate. Nature has provided well for this early period. For about 280 days the human organism develops within the body of the mother. Here it is given specially processed food, its temperature is kept constant, and its wastes are removed. It is protected from jarring or shock of any type. Through a long series of complicated processes it develops until at the end of its 40-week period it is ready to enter the world and begin a separate existence.

The product of such a wonderful and complicated process in any field would be very precious. Ordinarily babies are considered to be among the most precious possessions anyone can have. In Florida, however, about 32 in every thousand babies born in 1950 died before they were one year old. Florida has many things to be proud of, but this is one thing about which Florida cannot boast. This is particularly true when we compare our record with that of other states. We find that 32 of the 48 states have better records than we do and that there are only 15 states which have worse.

We are Concerned

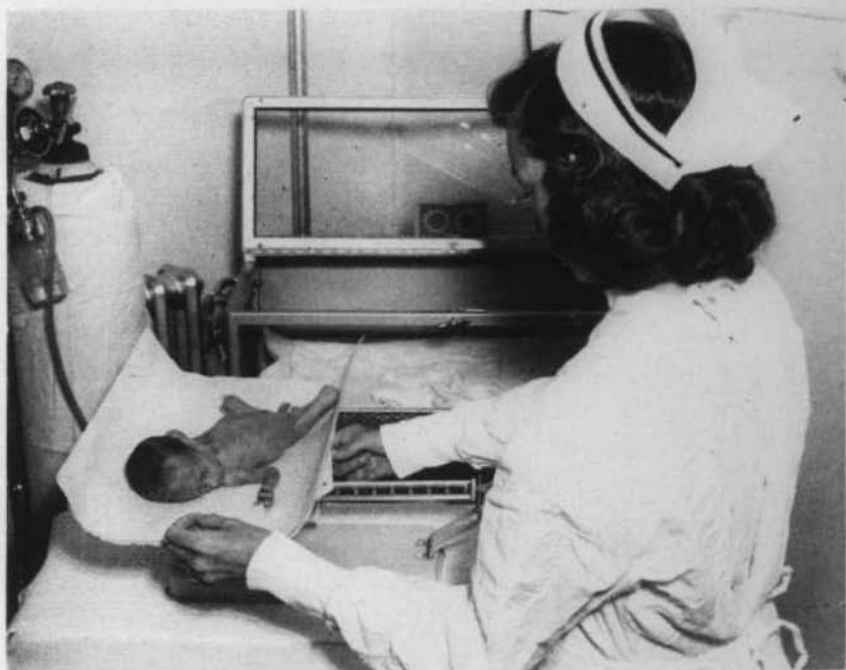
Your State Board of Health is, of course, very interested in this problem and is doing something about it. In studying the cause for our high death rate among newborn babies, we have found that the greatest number of deaths occur among babies who have been born too soon. It is among these babies that we have the biggest field for improving Florida's record.

The period of time that the baby is in the womb can be divided into three equal parts. During the first part the organs of the body are developed. During the second period the tissues within these organs are laid down. It has been found that after these two periods, or after approximately 28 weeks, it is possible for a baby to be born and survive. The last 12 weeks, however, is a period of growth and further building of tissues and organs, which vastly improves the infant's chances to survive. The change from the warm, well-protected life within the body of its mother to the cold, cruel world without is quite a shock and the longer it is prolonged the better.

For every thousand premature babies born in Florida during 1950 about 171 babies' death certificates carried "immaturity" as a cause of death. Here again our figures do not compare well with the rest of the nation.

In order to have agreement among doctors, there have been certain standards set up by the American Academy of Pediatrics, the national organization of outstanding "baby doctors." This organization has defined a premature baby as one weighing less than 5½ pounds at birth. They have also divided premature babies into four weight classes. The death rate ranges from about 90 per cent in those babies weighing less than 2.2 pounds to only seven per cent in those weighing over 4.4 pounds. In most states even though premature babies make up only five in 100 of the total live births, they also contribute about 40 per cent of the deaths in babies under one year of age.

In order to be able to do something about this problem, we should know first what are the things that cause a baby to be born before it is ready. One of the leading causes is the birth of more than one baby at a time. Twins, triplets and the like are usually all small babies and are born prematurely. When quadruplets and quintuplets are born they must of necessity be small and pre-



If you look closely at what the nurse is weighing you will see a premature baby.
You can see why they say they look like little, wrinkled old men.

mature. One very frequent cause is the complication of pregnancy known as toxemia or eclampsia. This is a condition, the cause of which is not known but which is very dangerous to both mother and baby. It causes high blood pressure, swelling of the face, hands and feet and other conditions. There are also several complications of pregnancy, such as those which cause bleeding. The cause of these complications is again not always known. There are also several malformations in the birth passage of the mother which bring about premature birth. Tumors of the birth passage can also cause this condition. Serious illness in the mother has caused many babies to be born too early. Among these illnesses are syphilis, heart disease, tuberculosis and diabetes. Occasionally injury to the mother has resulted in the birth of her baby before its time. Two conditions that are thought to cause early delivery, but have not been so proven, are overwork and poor diet.

Some of these conditions cannot be prevented. In fact, approximately 30 per cent of premature births are without any known cause so that prevention in these cases is therefore almost impossible. Doctors have made great strides, however, in treating toxemia of pregnancy and other complications so that a great deal of the difficulty can be done away with. This is particularly true if the condition is found soon after it develops. Certainly a great deal can be done about syphilis and the campaigns against this disease have shown results in the decrease of the number of premature births from this cause. Sometimes the complication generally spoken of by the public as "Rh factor" makes it necessary for the doctor to start labor early or otherwise bring about early delivery. This is necessary to keep the baby from dying if the pregnancy continues. Here again the event cannot be prevented. If the mother presents herself to her doctor or to a clinic as soon as she becomes pregnant, the good examination and care that she will receive will do much to prevent her going into labor prematurely. Early diagnosis and treatment of the conditions, of which prevention is possible, makes it much more probable that the baby can be carried for the full time.

It's a Hard Life

In order to better understand the premature baby's fight for life, it is well to point out the handicaps that he is under. One of his greatest handicaps is his inability to breathe properly. This is due to the incomplete development of his lungs and of the muscles with which he breathes. His ribs are soft and this again makes his breathing poor. His cough and his "gag reflex" are very weak. This causes him to take fluids into his lungs at times, such as during feeding.

The circulation of the baby's blood is also quite poor. The heart is not fully developed and the small blood vessels are more easily broken. Along the same line is his very poor control of the body temperature. Being very small he has a greater area of skin in proportion to his size than his larger brother. He, therefore, loses heat faster. He also is born with very little fat under his skin to act as insulation. This gives him the appearance of a little old man. Since his muscles are poorly developed he cannot kick his arms and legs vigorously in order to stimulate production of

heat. When he becomes overheated he cannot perspire properly to bring his temperature back to normal. Even his metabolism or "body fire" burns low.

The little fellow also has trouble eating and using his food. He very frequently is too weak to suck or nurse properly and even his swallowing reflexes are poor. His tiny stomach will not hold very much and he must be fed more frequently. He has not had time to receive the stores of food from his mother which are the standard equipment of a fully developed baby. Certain things, such as fats, cannot be taken up very well by the baby's digestive system. The feeding of this tiny infant is a problem that requires great skill. He cannot stand much handling so that there is a definite limit to the number of times a day he can be fed. On the other hand he cannot be fed very much at a time. Sometimes people caring for premature babies are so anxious to help them that they feed them both too much and too soon after birth. This has probably caused the death of many of them.

Premature babies also have little or no stores of the vitamins essential to health that full term babies have received from their mothers before birth. All babies need to be given vitamins but prematures need them much earlier and in much larger quantities. They particularly need vitamins A, C and D.

Most babies have a peculiar "thinning of the blood," or anemia, following birth. This is due in part to a normally occurring destruction of some of the blood cells. In a normal baby this causes very little concern but in the premature baby it may be quite severe. The blood does not contain as many substances to fight diseases as a full-term baby and the ability to manufacture new blood is poor.

A baby born too early very frequently takes a position in the womb which makes delivery more difficult. When you consider that he is also a very delicate little thing and must then be put through a difficult delivery, it is a wonder that as many of them survive as do. In fact, many doctors have said that in the face of so many handicaps the premature baby shows more than any other human being the determination to live. Usually all he needs is half a chance.

The premature babies that die usually have their deaths recorded as due to one of relatively few conditions. Many of



This young fellow weighed in for his fight for life at two and three quarter pounds. That cocky expression means he is winning at 9 months and 19 $\frac{1}{4}$ pounds!

them die without any cause that can be found, other than the fact that they are premature. This is the largest single cause of death given. Others die because their respiration has failed. This may be due to choking or inhaling liquids into the lungs. On the other hand, the infant's respiration may fail because of disease conditions which existed in his mother, or because too many drugs or too much anaesthesia were used during delivery. Another common cause of death in prematures is some type of infection. This may be pneumonia, blood poisoning, common colds, diarrhea, or meningitis. As a result of their difficult birth and their delicate tissues and also because the bones of their head are not well formed, many of these little people die of hemorrhage inside the skull.

Much can be done to prevent deaths in most of these conditions. Premature babies should be more carefully handled and should be protected more carefully from temperature changes and infections. If possible, no one should come near them who has a cold or any other type of infection. Their food must be sterilized even more carefully than for a mature baby. They should be watched

for choking especially during and immediately after feeding. Hospitals with specially trained nurses and equipment for handling prematures can prevent a lot of deaths. Even where babies must be cared for in the home proper precautions will prevent them from having complications. The most important time in the life of a premature baby is his first 24 hours. During this time he needs very close attention. The more the person attending him has been trained and the more special equipment there is, the better are the chances of the baby. A lot can be done, however, with careful, patient attention and basic equipment.

If these babies come through all right, what does the future hold for them? Not much attention has been given this subject in the United States. A German doctor did considerable research and found that premature babies are little behind normal babies in weight and length for the first two to five years of life. However, during this period they begin to catch up and by five or six years of age most of them are of the same weight and height as full-term babies born at the same time. A lot of us are acquainted with cases of big, strapping football players and the like whose mothers proudly tell us were premature babies.

One of the big difficulties with premature babies is that all this careful, sheltered care in an incubator makes a baby lose the fondling and personal contact with his mother that he needs. All babies need to be loved so they can grow up emotionally. As far as can be told, however, there is no change in the normal course of mental growth. They are slow starters but do all right in the long pull.

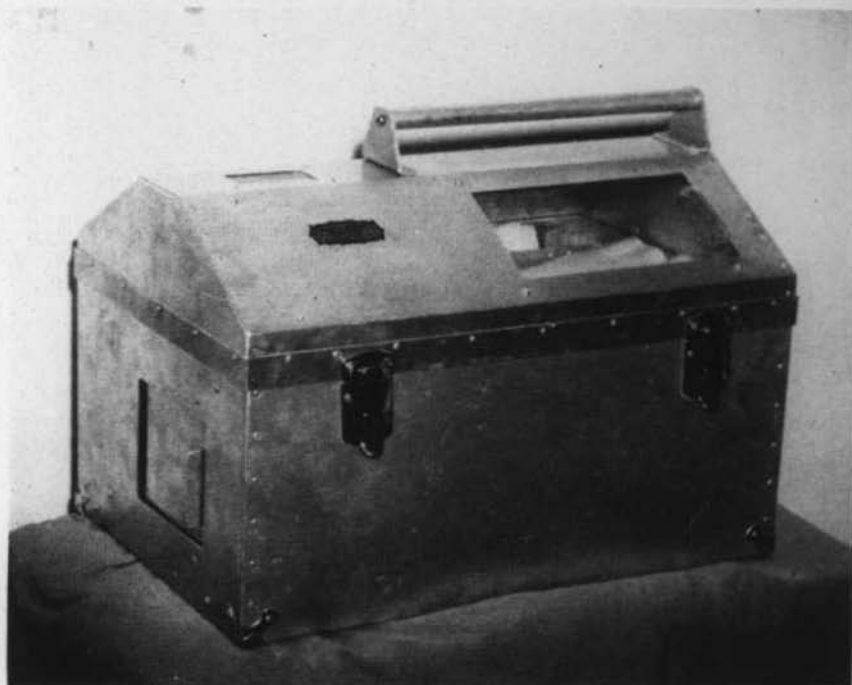
That these babies can "catch up" is illustrated by a list of famous premature babies. Probably the most outstanding in our present day world is the former Prime Minister of Britain, Winston Churchill. Other famous "preemies" were: Victor Hugo, the great author; Charles Darwin, one of the greatest biologists of all times; Sir Isaac Newton, an early scientist who made very many important contributions to the world. Two other great authors were Rousseau and Voltaire. Certainly these men were not handicapped by their being born too soon and it was well worth the trouble to bring them through their dangerous early days.

One very distressing complication of premature babies, however, is known by the scientific name "retrolental fibroplasia." This is a condition where scar tissue forms behind the lens and in the back of the eye and produces complete blindness. This occurs in approximately 10 per cent of the total number of premature babies throughout the United States. We are fortunate here in Florida, however, in that the condition seems to be quite rare in warm climates. Even our best Southern hospitals associated with medical schools can only find one or two cases in the many thousands of premature babies they care for. There is no cause or cure known and it remains one of the great mysteries of medicine. Perhaps some doctor-scientist who was a "preemie" will find the answer.

It does very little good to talk about a problem unless you are doing something about it or intend to do something about it. Here in Florida we are doing something about premature babies and intend to do much more. A committee of leading pediatricians (baby specialists) are studying the problem of infant deaths carefully. They are trying to find the reasons for Florida's high death rate among premature infants. They will also work out methods of bringing this high rate down. The official name of this group is the Florida Committee on the Fetus and the New-born. A Jacksonville doctor is chairman and there are representatives from all sections of the state. Another committee is studying retrolental fibroplasia. The Florida Council for the Blind is interested in the above since the condition produces blindness. Other agencies and organizations represented are the Florida State Board of Health, the Premature Infant Centre of Jackson Memorial Hospital in Miami, and the societies of doctors who are specialists in the care of babies, of mothers, and of the eyes. These committees represent the people and organizations in Florida who are most interested in babies "born too soon." We can expect them to make great contributions to the lowering of death rates and complications in this group of future Floridians.

Your State Board of Health is also doing something else about this problem. In cooperation with county commissioners they have established county health departments in 65 of the 67 counties. Each one of these county health departments spends a good deal of its time in helping mothers and babies to better health. One of the ways it does this is by public health nurses attached to the department visiting prospective mothers and giving help and

advice whenever they can. Where mothers can afford to have a private doctor they are urged to visit him as soon as they think they are pregnant. If they cannot afford their own doctor, arrangements are made for them to attend the regular clinics for mothers held in all county health departments. During 1950 there were 10,671 prospective mothers helped by these clinics. These mothers receive a thorough examination to determine first if they are pregnant and second if there is any condition present which will endanger their life or their baby's life. If such condition is found the doctor then decides what should be done about it. If the birth is likely to be fairly easy and the mother wishes to have a midwife care for her, (especially if she lives in a rural area) this is agreed to if she will regularly return to the clinic for checkups. If, however, a dangerous condition is found, it is insisted that the mother be delivered by a doctor.



A Prager Carrier. It is built of aluminum which makes it light to carry. After the baby is placed in it he may be cared for through the sliding window at the top.

The nurse also helps the mother prepare for the birth of the baby by advising her to secure such things as baby clothes, equipment for sterilizing and the like. If the baby is born prematurely, most rural health departments have a special box for transporting the baby to the hospital known as a Prigel Carrier. The State Board of Health has given 46 of these carriers to county health departments. The county health departments have furnished the equipment that goes with the carrier, or sometimes local women's clubs have purchased this equipment. These carriers stand ready for service at all times.

Midwives

It would be hard to talk about the health of mothers and babies in Florida without saying something about midwives. In the year 1950 midwives attended the births of 14 per cent of the babies born in the state. At present there are 420 licensed midwives practicing in Florida. Most of these midwives are not well educated and they are frequently poorly trained. The best that may be said for them is that they are better than no assistance at all. No mother should have a midwife to assist her in her delivery if a doctor can attend. However, in some of the "back country" of our state there are no doctors living close enough to reach the mother when her labor starts. In two counties there are no doctors at all. In these cases a good midwife could be very useful. In the cities and other areas where there are doctors there is no good reason for using midwives. All health workers encourage expectant mothers to call a doctor for delivery of their babies. More and more this advice is being heeded. In Florida in 1940 midwives attended 27 per cent of the deliveries but as stated above in 1950 only 14 per cent were attended by these women.

The State Board of Health is trying to help midwives give the best care possible to the women who call them. Midwives work in close cooperation with the county health officer and the nurses of the county health department. They are licensed by the Board after recommendation of the county health officer. Classes are held for them by the public health nurses in which cleanliness and proper methods are taught. Of course, in these classes the proper things to do when a baby is born prematurely are taught. Since mothers in the low income group not only have premature

babies often, but also employ midwives, this subject is most important in midwives' classes. A colored graduate nurse with special training in the care of mothers is on the staff of the State Board of Health. She assists the county health departments in their supervision and teaching of the midwives. This program not only improves the health of mothers but helps to solve this problem of the baby in Florida that is born too soon.

The two most important people in the first weeks of life of a premature baby are his nurse and his doctor. His doctor must closely supervise his whole existence from the time he is born until he is out of danger. He controls the amount and type of food that the baby is fed and changes it when difficulty arises. He must be constantly watching the baby for signs of disease or other difficulty. If such emergencies arise the doctor must decide whatever special treatment, or possibly what operation, will be necessary. The doctor is very important in the struggle for life of a miniature baby. Possibly the most important person in his life, however, is the nurse who is assigned to care for him. A leading specialist in the care of premature babies has made a great tribute to nurses who care for these babies. He has said that he hopes he never has to make the choice, but that if his baby were born prematurely he would prefer to have a nurse skilled in caring for premature babies and a doctor who was not skilled; rather than a doctor who was skilled and a nurse who was unskilled. Nurses are important in all phases of health work but they are most important in the care of these small babies. They carefully watch their patients for changes in their condition. They seem to develop a sixth sense which tells them that their charges are not doing so well. They watch closely for changes in body temperature and quickly adjust conditions to bring this back to normal. They must be particularly skillful in the feeding of these infants since the little fellow needs a great deal of help. Oftentimes nurses become quite attached to these little doll-like babies and work even harder to pull them safely through their first trying days.

Better Prepared

The State Board of Health realizes how important in the lives of these babies are their doctors and nurses. They are urging and also trying to make it possible for many doctors and nurses who deal with premature babies to have special postgraduate training



An open view of the Prager Carrier showing a doll placed as the baby might be. Note the hot water bottles, the thermometer and the face mask for giving oxygen from the tank beside the carrier.

in their care. Since these two individuals must work smoothly as a team, they frequently go to learn as a team. Usually a doctor and a nurse go together from the same community. They attend many of the lectures and clinics together. This is another example of the fine teamwork that exists between these two professions.

So far there have been five of these teams sent away for study. Four have gone from Miami and one from Jacksonville. All these have gone to the New York Hospital — Cornell Medical Center in New York City. This hospital is one of the outstanding hospitals in the world in the care of premature babies. In January 1952 another team will go from Jacksonville. A team from Tallahassee has been selected for June 1952. In addition to these, four nurses from hospitals in Miami and one from Lakeland were given the opportunity to study the care of premature infants in Vanderbilt University and two from Jacksonville attended Louisiana State University for the same purpose.

Three doctors who are specialists in the care of children have been given the opportunity to study the subject at Michael Reese Hospital in Chicago. They came from Miami, Tampa and Lakeland.

The hospitals of the state are interested in training more nurses in the care of these premature babies. In a survey the State Board of Health found that 41 hospitals would like to send nurses if funds could be found. This doesn't sound like much of a statement until you consider the scarcity of nurses and the trouble it causes a hospital when a key nurse leaves for three months of training.

An outstanding example of close cooperation between the hospital and the health department in the care of premature babies may be seen in southern Florida centered around the Jackson Memorial Hospital in Miami. Assisted by funds from the U. S. Children's Bureau given through the State Board of Health, the Dade County Health Department and the Jackson Memorial Hospital are operating a model program for the care of these babies. The program was begun December 1, 1950. The pediatric department of the hospital after some minor reorganization will be able to increase its capacity for premature infants to thirty. In addition there will be spaces for babies recently admitted and for those who have some infectious or contagious disease or condition. The so-called Premature Infant Unit is under the general direction of the chief of pediatrics of the hospital with two doctors who



A nurse demonstrates the proper method of bathing a very small baby.

work part time as co-directors. These latter two doctors are trained specialists in the care of children but also have had additional training in the care of premature babies. They devote a large part of their time to the unit and furnish the close supervision that is necessary. Babies may be admitted not only from Dade County but from Palm Beach, Monroe, Broward and St. Lucie Counties. Any premature baby may be admitted regardless of race. The State Board of Health pays for the hospital stay of these babies. Since the hospital is a Dade County institution, babies admitted from that county already have part of their bills arranged for.

The methods employed by the unit are the very latest. A graduate nurse specially trained in the care of premature infants is on duty in the unit at all times. Student nurses are given experience in the unit after they have had duty in the other part of the children's service of the hospital. Each nurse has her own set of babies to care for (usually four or five) and during her shift cares for these same babies until they are sent home from the hospital. An example of the well-planned organization of this unit is in the number of times that a baby is handled. Since these little fellows

are quite weak they can be easily tired out by handling. In the unit they are only handled nine times during a 24-hour period. This includes eight times for feeding and once for giving a daily bath. What about changing diapers? That is done at the same time something else is being carried out. Good nursing also requires, of course, the nurse be spick and span. She washes her hands after handling each baby and wears a sterilized gown. She usually remains in the room with the babies for her entire 8-hour shift with only occasional release. The only persons allowed in the room are those who perform essential services. The most modern type incubators are used and these remain closed all the time. When placed in these latest models the baby is never taken out from the time he is put in until he is ready to sleep in an ordinary bassinet. Attachments are available so that it is not necessary to even take him out for weighing. In this way he is protected from temperature changes and infections.

After the unit has been in operation for one year it is planned to have nurses visit the hospital and even work in the unit in order to learn the latest techniques of care of premature infants. These nurses will come from hospitals and health departments all over the state. It is expected that doctors will also visit the unit to learn the latest methods of supervision of these small babies. This again will help to make skilled doctors and nurses available to every baby born too soon in Florida.

Working Together

The Dade County Health Department also plays a large role in the operation of this premature baby unit. The department has a registered graduate nurse who has had special training both in midwifery and in the care of premature babies. She supervises the midwives operating in Dade County. If a midwife is called on a case and finds that there is a premature baby about to be born she immediately calls for the supervising nurse. This nurse has a special carrier for premature babies in her car at all times. When the baby is born she gives whatever care is necessary at the moment and then rushes him to the hospital and places him in the premature baby unit. Where possible, mothers in labor prematurely are taken to the hospital for delivery but where the baby arrives before this can be done the nurse is ready with her special



This is feeding time in the Premature Infant Center at the Jackson Memorial Hospital in Miami. This baby is ready to go home.

equipment. Babies born prematurely in other hospitals are taken to the center by an ambulance equipped with special Prugel Carrier and accompanied by a nurse attached to the referring hospital.

As soon as any premature babies are admitted to the unit, the Dade County Health Department is notified. The public health nurse assigned to the district where the family lives immediately visits the home. She begins at once to find out what the situation is in the home and if things will be ready for the baby to be brought from the hospital. Since the baby arrived early there are usually many things to be done before they are ready for the homecoming. Many times the home is not ready for any kind of baby and the nurse must begin to remedy these conditions. She must make sure there is a separate bed for the baby and space in the house for his bed. She also makes sure that the baby will be kept warm during the cold snaps which even southeast Florida has infrequently. She sees that there is enough clothing and bedding ready and that there are supplies and equipment for feeding the baby. She checks to see that there is sufficient refrigeration

equipment with which to keep the baby's food from spoiling, and equipment for preparing a baby's formula. She checks on the provision of vitamins. She investigates the health and appearance of the other children, how clean the home is kept, and what the mother's attitude toward the baby will be. She impresses on the members of the family that the baby soon will be strong enough so that he can be treated the same as any other baby in the household. She makes sure that the baby's mother has sufficient health and strength to undertake this new task. Usually this involves several visits, sometimes as high as four or five in order to make the home ready for the baby's arrival. Until these things are arranged satisfactorily the baby is not discharged from the hospital. This may require the cooperation of the Social Service Department of the Jackson Memorial Hospital. This department works in close cooperation with other welfare agencies in Dade and other counties in helping out in these cases. Their work is very important to many of these families. Premature babies have a way of being born into families whose income is small. If they do not have proper equipment at home all the fine medical and nursing care they have received may be all in vain.

Sometimes all the facilities of the health department are drawn into this premature infant program. For instance, in Miami a nurse refused to consent to the baby being brought home until the sanitarian could clear the house of rats. This is another example of the many-sided functions of a well organized health department.

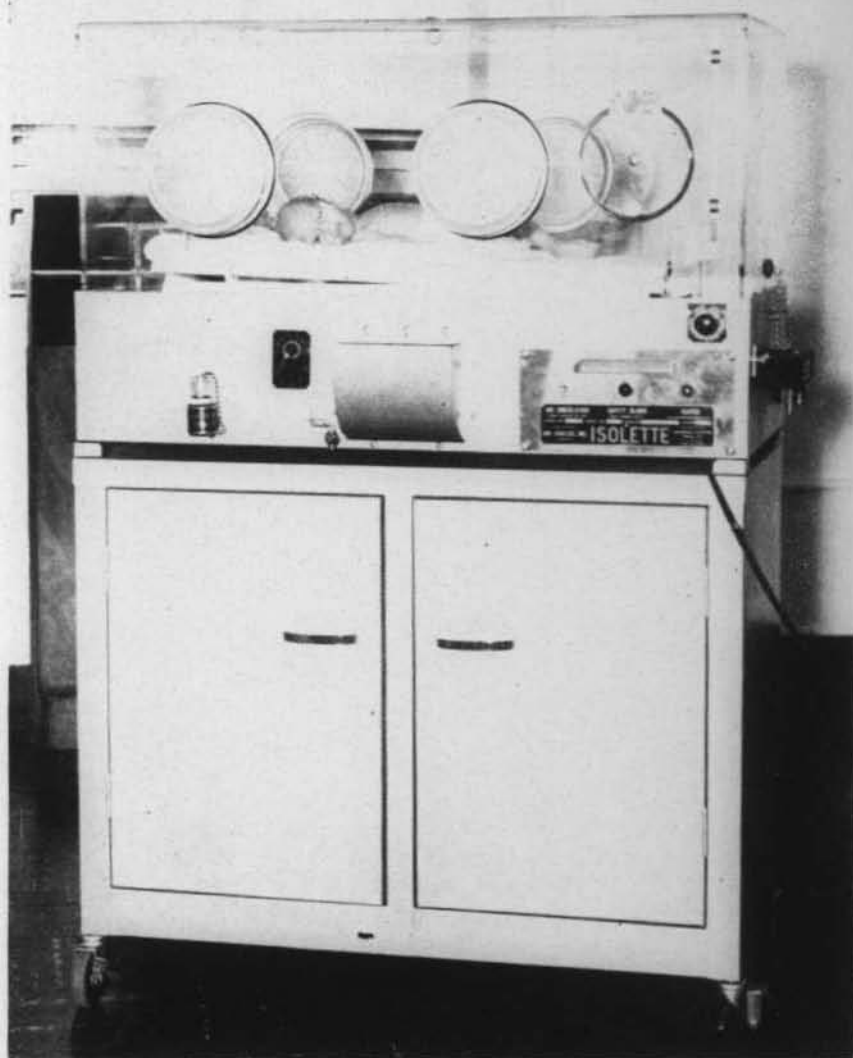
One of the unit's prize cases was one in which a midwife began delivery and found to her surprise (and the clinic doctor's) that triplets were being born. The nurse supervisor was called and she rushed to the home accompanied by the midwife supervisor of the State Board of Health who was visiting Miami at the time. All three babies were delivered successfully. Two were placed in the incubator and one was held in the arms of the nurse while they were all rushed to the hospital. They were successfully brought through the dangerous period and each was discharged when it reached five pounds. Unfortunately after they were taken home whooping cough was brought into the family and one of them died.

Two very useful pieces of equipment in the care of babies born too soon are the Prager Carrier and the incubator. The carrier is designed to get the baby from the home or small hospital to the in-

cubator in the larger hospital without injury. It is sometimes jokingly called a "dog box" and it does resemble the case that people carry pets in. It is a box made of aluminum about the size of a suitcase. There are several sliding doors or windows through which the baby may be watched and cared for. Inside is an aluminum tray or cradle on which the baby lies. On all four sides of the cradle are spaces for hot water bottles. These give the heat that is necessary. A thermometer is mounted so that it can be easily read through the window. A tank of oxygen is attached to the outside. From it a rubber tube runs through a bottle of water to a face mask inside the carrier. This is for giving the baby oxygen and increasing the water content of the air inside the case. The whole thing is light enough so that a nurse can carry it easily. It is safe too since there is nothing to break. It is large enough to accommodate twins. As we stated before, the State Board of Health has given 46 of these carriers to county health departments. There are still a few departments which do not have them and this would make a good project for civic clubs or other service organizations in those counties. The consultant nurses of the State Board of Health give instructions on the emergency care of premature infants to the nurses in county health departments, including the use of the Prager Carrier. Perhaps your club could help your county health department by purchasing this lifesaving equipment. Ask them.

A Lifesaver

The hospital incubator is a more complicated piece of machinery. It requires a source of electricity that is unfailing and also requires a specially trained nurse in constant attendance in order for it to be properly operated. The most modern types contain sleeve holes through which the nurse may put her arms to care for the baby. These are ingeniously constructed so that they may be tightly closed or fitted around the nurse's arms. In this way the oxygen and heat inside the incubator are saved. The heat is automatically controlled and there is a device for keeping the moisture content of the air just right. When the baby's breathing becomes better, fresh air from outdoors may be circulated rather than the pure oxygen. All the needs of the baby are taken care of **inside** the incubator. A hook in the top of the case can be attached to a tray and a spring scale and the baby weighed without being taken out of the incubator.



A late model incubator for premature babies. This little fellow is living in a "glass house" so his nurse can keep her eye on him.

The State Board of Health has given 96 incubators to county health departments. The county health officer decides what to do with them. Usually he puts them in a hospital with the understanding that it may be moved to another hospital at his direction if an emergency arises. In addition to these 96 incubators, the hospitals in the state have 277 more, according to a recent survey. This gives a total of 373 incubators in Florida. More are needed. How many? In a recent survey of Florida hospitals they indicated need for 32 additional incubators. Another good project for your service club!

Our Natural Resources

One of Florida's greatest health problems is its high death rate in babies under one year of age. We must conserve our national energy and our precious lives if we are to continue our progress as a nation. This waste of human resources is a great shame. We are doing something about it but we must do more — much more. One of the biggest opportunities we have is in the field of premature babies. The birth of infants before their full term must be prevented. The general health of children and young adults should be improved. Girls (and boys) entering the child raising age must be educated to the importance of about-to-be-mothers consulting a doctor as soon as they believe they are pregnant. There must be more specially trained doctors and nurses in our state to care for mothers and their children. Modern equipment for the care of premature babies should be available in all parts of the state. Close cooperation between county health departments and hospitals will save the lives of many of these babies. All together we can do a lot to put our infant death rate at the top of the list where it should be. Who knows — in doing this we may save the life of a future Churchill, Newton, or Darwin!

FLORIDA HEALTH NOTES

Published monthly except July and August on the 5th of the month by the Florida State Board of Health. Publication office, Jacksonville, Fla., headquarters of the State Board of Health. Entered as second class matter, Oct. 27, 1921, at post office, Jacksonville, Fla., Act of Aug. 24, 1912. It is intended primarily for individuals and institutions with an interest in the state health program, public and private. Permission is given to quote any story. Clippings of quotations or excerpts would be appreciated.

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Perhaps the most important single factor in saving the lives of premature infants is specialized care of the fragile bit of humanity once he arrives. Adequate prenatal care, in an effort to reduce the incidence of premature deliveries, comes next. We are faced with a challenge, and an opportunity to decrease both morbidity and mortality in this field of infant care.

President, American Academy of Pediatrics
Warren W. Quillian, M.D., (Miami, Florida)